

RESULT 11

Q9DFY7 PRELIMINARY; PRT; 128 AA.
 AC Q9DFY7
 DT 01-MAR-2001 (TREMBLrel. 16, Created)
 DT 01-OCT-2001 (TREMBLrel. 18, Last sequence update)
 DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
 DE RC-RNase6 ribonuclease precursor.
 OS Rana catesbeiana (bull frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
 OX NCBI_TaxID=8400;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=20512555; PubMed=11058105;
 RA Liao Y.-D., Huang H.-C., Leu Y.-J., Wei C.-W., Tang P.-C., Wang S.-C.;
 RT "Purification and cloning of cytotoxic ribonucleases from Rana
 catesbeiana (bullfrog).";
 RL Nucleic Acids Res. 28:4097-4104 (2000).
 DR EMBL; AF242554; AAG31440.2; -.
 DR HSSP; P22069; 10NC.
 DR GO; GO:0003676; F:nucleic acid binding; IEA.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA.
 DR PROSITE; PD000535; RNaseA; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 KW SIGNAL.
 FT CHAIN 1 23 POTENTIAL.
 FT CHAIN 24 128 RC-RNASE3 RIBONUCLEASE.
 SQ SEQUENCE 128 AA; 14517 MW; 2B14986082E0587D CRC64;

Query Match 37.2%; Score 223.5; DB 13; Length 128;
 Best Local Similarity 40.2%; Pred. No. 7e-18;
 Matches 45; Conservative 19; Mismatches 39; Indels 9; Gaps 4;

QY 1 QNWATFOQKHINT-PIICNTLDNNIYVGQCKRVNTFISSATTVAICTGV-INLN 58
 DB 24 QDWTFQKKHLTDTRKKVCDVEMKALF----DCKKNTFIYALPGRVKALCKNIRDNTD 79
 QY 59 VLSSTRFQNTCTRTSITPRCPYSSRTETNYICVKCENQYVHFAGIGRCP 110
 DB 80 VLSRDAFLPQCDRIKL----PHYLLSSTNTICITCVNQLPIHFAGVGSCTP 128

RESULT 12

Q9DFY5 PRELIMINARY; PRT; 128 AA.
 AC Q9DFY5
 DT 01-MAR-2001 (TREMBLrel. 16, Created)
 DT 01-OCT-2001 (TREMBLrel. 18, Last sequence update)
 DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
 DE RC-RNase6 ribonuclease precursor.
 OS Rana catesbeiana (bull frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
 OX NCBI_TaxID=8400;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=20512555; PubMed=11058105;
 RA Liao Y.-D., Huang H.-C., Leu Y.-J., Wei C.-W., Tang P.-C., Wang S.-C.;
 RT "Purification and cloning of cytotoxic ribonucleases from Rana
 catesbeiana (bullfrog).";
 RL Nucleic Acids Res. 28:4097-4104 (2000).
 DR EMBL; AF242556; AAG31442.2; -.
 DR HSSP; P22069; 10NC.

Query Match 37.2%; Score 223.5; DB 13; Length 128;
 Best Local Similarity 40.2%; Pred. No. 7e-18;
 Matches 45; Conservative 19; Mismatches 39; Indels 9; Gaps 4;

DR GO; GO:0003676; F:nucleic acid binding; IEA.
 DR GO; GO:0004522; F:pancreatic ribonuclease activity; IEA.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR PROSITE; PD000535; RNaseA; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 KW SIGNAL.
 FT CHAIN 1 23 POTENTIAL.
 FT CHAIN 24 128 RC-RNASE6 RIBONUCLEASE.
 SQ SEQUENCE 128 AA; 14804 MW; AF6FD67D266C7C2 CRC64;

Query Match 35.8%; Score 214.5; DB 13; Length 128;
 Best Local Similarity 38.4%; Pred. No. 7.7e-17;
 Matches 43; Conservative 20; Mismatches 40; Indels 9; Gaps 4;

QY 1 QNWATFOQKHINT-PIICNTLDNNIYVGQCKRVNTFISSATTVAICTGV-INLN 58
 DB 24 QDWTFQKKHLTDTRKKVCDVEMKALF----DCKKNTFIYALPGRVKALCKNIRDNTD 79
 QY 59 VLSSTRFQNTCTRTSITPRCPYSSRTETNYICVKCENQYVHFAGIGRCP 110
 DB 80 VLSRDVFIYPQCNRRKL----PHYRLDGSNTICITCMKELPIHFAGVGKCP 128

RESULT 13

Q9W738 PRELIMINARY; PRT; 169 AA.
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 DT 01-NOV-1999 (TREMBLrel. 12, Created)
 DT 01-NOV-1999 (TREMBLrel. 12, Last sequence update)
 DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
 DE FRL2 protein.
 GN FRL2.
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipioidea; Pipidae;
 OC Xenopodinae; Xenopus.
 OX NCBI_TaxID=8355;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96069863; PubMed=7585965;
 RA Kinoshita N., Minshull J., Kirschner M.W.;
 RT "The identification of two novel ligands of the FGF receptor by a
 yeast screening method and their activity in Xenopus development.";
 RL Cell 83:621-630 (1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Kinoshita N., Kirschner M.W.;
 RL Submitted (JUN-1999) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF159166; AAD41901.1; -.
 DR HSSP; P06656; 1LSQ.
 DR GO; GO:0003676; F:nucleic acid binding; IEA.
 DR GO; GO:0004522; F:pancreatic ribonuclease activity; IEA.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR PROSITE; PD000535; RNaseA; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 SQ SEQUENCE 169 AA; 18891 MW; D969F3E43B3CE1B8 CRC64;

Query Match 26.8%; Score 161; DB 13; Length 169;
 Best Local Similarity 39.3%; Pred. No. 1.5e-10;
 Matches 44; Conservative 10; Mismatches 50; Indels 8; Gaps 6;

QY 1 QNWATFOQKHII--NTPLICN-TILDNNIYVGQCKRVNTFI-SSATTVAICTGVIN 56
 DB 28 QINAFMEKHIVKEGATNCNQTIDKRNIRF-KNCKFRNTFIHDTNGKKVKEMCAGIVK 86
 QY 57 LN-VLSSTRFQNTCTRTSITPRP--CPYSSRTETNYICVKCENQYVHFAG 105
 DB 87 STFWISKELLPLDCLLMGRTPNCAYNQTRTGTGVTNITCENNYPVHFAG 138

RESULT 14

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Q9BEC1
ID Q9BEC1 PRELIMINARY; PRT; 170 AA.
AC Q9BEC1;
DT 01-JUN-2001 (TrEMBLrel. 17, Created)
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Brain-type ribonuclease ribonuclease precursor (Fragment).
GN RNASE B.
OS Tragus javanicus (Lesser Malay chevrotain).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Tragulina;
OC Tragulidae; Tragulus.
OX NCBI_TaxID=9849;
RN [1]_
RP SEQUENCE FROM N.A.
RX MEDLINE=21347458; PubMed=11453981;
RA Breukelman H.J., Jekel P.A., Dubois J.Y., Mulder P.P.M.F.A.,
RA Warmels H.W., Beintema J.J.;
RT "Secretory ribonucleases in the primitive ruminant chevrotain
(RTragus javanicus)";
RL Eur. J. Biochem. 268:3890-3897(2001).
CC -!- SIMILARITY: BELONGS TO THE PANCREATIC RIBONUCLEASE FAMILY.
DR EMBL; AJ271299; CAC24723.1; -.
DR HSSP; P00656; 1LSQ.
DR GO; GO:0004519; F:endonuclease activity; IEA.
DR GO; GO:0016787; F:hydrolase activity; IEA.
DR GO; GO:0004522; F:pancreatic ribonuclease activity; IEA.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Endonuclease; Hydrolase; Nuclease; Signal.
FT NON_TER 1
FT SIGNAL <1 19
FT CHAIN 20 170
FT BRIN-TYPE RIBONUCLEASE RIBONUCLEASE.
SQ SEQUENCE 170 AA; 18832 MW; AB6CE7E1E5549AA0 CRC64;

Query Match 21.3%; Score 128; DB 6; Length 170;
Best Local Similarity 32.3%; Pred. No. 9.5e-07;
Matches 40; Conservative 18; Mismatches 46; Indels 20; Gaps 7;

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Db 25 AKFRQRLDAGNSINSN-YCNLMKRR-KWTHGRCKPNTFTHESLEDVKAICSEKNIT 82

QY 53 ---GVINLVNLTFRFQNTCTRTSITPRP-CPYSKRTETNYICVKCN--QYPVHPAGI 106
Db 83 CKNGQFNCHQSNT-MNITDCROTGGSKYENCAYKTSQKXIIVACEGTPSPVHPDGS 141

QY 107 GRCP 110
Db 142 AVLPL 145

RESULT 15
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DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Angiogenin-4.
GN ANG4.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]_
RP SEQUENCE FROM N.A.
RC STRAIN=NMRI;
RX MEDLINE=22493143; PubMed=12548285;

RA Hooper L.V., Stappenbeck T.S., Hong C.V., Gordon J.I.;
RT "Angiogenins: a new class of microbicidal proteins involved in innate
immunity.";
RL Nat. Immunol. 4:269-273(2003).
DR EMBL; AY219870; AAO62354.1; -.
DR GO; GO:0003676; F:nucleic acid binding; IEA.
DR GO; GO:0004522; F:pancreatic ribonuclease activity; IEA.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
SQ SEQUENCE 144 AA; 16554 MW; 09808807C00224C1 CRC64;

Query Match 21.2%; Score 127.5; DB 11; Length 144;
Best Local Similarity 38.2%; Pred. No. 9e-07;
Matches 29; Conservative 13; Mismatches 29; Indels 5; Gaps 3;

QY 33 CKRVNTFLISSATTVKAIC---TGVINLVNLTFRFQNTCTRTSITP-RPCPYSSRTE 87
Db 62 CKDVNTFIHGTKNIRALCKKSPYGENFRISNPFQITTCHSRGSPWPCGYRAFKD 121

QY 88 TNYICVKCNQYVPHF 103
Db 122 FRVIVACEDGMVPHF 137

Search completed: May 7, 2004, 21:46:04
Job time : 31.2816 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:29:40 ; Search time 33.3695 Seconds
(without alignments)
865.070 Million cell updates/sec

Title: US-09-961-400-2

Perfect score: 578

Sequence: 1 QDWLTQKKHLNTRDVCN.....TFCVTCENQAPVHFVGVC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1140673 seqs, 277566755 residues

Total number of hits satisfying chosen parameters: 1140673

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA.*

- 1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep.*
- 4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
- 5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep.*
- 6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
- 7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
- 8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep.*
- 17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
- 18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	578	100.0	104	10	US-09-961-400-2
2	578	100.0	105	10	US-09-948-391A-9
3	578	100.0	105	10	US-09-961-400-6
4	578	100.0	127	10	US-09-948-391A-28
5	578	100.0	127	10	US-09-961-400-28
6	575	99.5	111	10	US-09-961-400-9
7	573	99.1	104	10	US-09-948-391A-11
8	573	99.1	104	10	US-09-961-400-11
9	573	99.1	105	10	US-09-948-391A-13
10	573	99.1	105	10	US-09-961-400-13
11	569	98.4	104	10	US-09-948-391A-2
12	569	98.4	104	10	US-09-948-391A-4
13	569	98.4	104	10	US-09-961-400-4
14	565	97.8	105	10	US-09-961-400-8
15	560	96.9	105	10	US-09-948-391A-8

16	560	96.9	111	10	US-09-948-391A-9	Sequence 9, Appli
17	556	96.2	105	14	US-10-153-882-2	Sequence 2, Appli
18	551	95.3	104	9	US-09-986-119-1	Sequence 1, Appli
19	551	95.3	104	10	US-09-918-887-1	Sequence 1, Appli
20	548	94.8	104	12	US-10-461-713-53	Sequence 53, Appli
21	445	77.0	83	9	US-09-986-119-3	Sequence 3, Appli
22	445	77.0	83	10	US-09-918-887-3	Sequence 3, Appli
23	281.5	48.7	110	10	US-09-948-391A-15	Sequence 15, Appli
24	281.5	48.7	110	10	US-09-961-400-15	Sequence 15, Appli
25	281.5	48.7	111	10	US-09-961-400-17	Sequence 17, Appli
26	277.5	48.0	110	10	US-09-961-400-19	Sequence 19, Appli
27	277.5	48.0	111	10	US-09-948-391A-21	Sequence 21, Appli
28	277.5	48.0	111	10	US-09-961-400-21	Sequence 21, Appli
29	277.5	48.0	117	10	US-09-948-391A-22	Sequence 22, Appli
30	277.5	48.0	117	10	US-09-961-400-22	Sequence 22, Appli
31	276.5	47.8	110	10	US-09-948-391A-24	Sequence 24, Appli
32	276.5	47.8	110	10	US-09-961-400-24	Sequence 24, Appli
33	276.5	47.8	111	10	US-09-948-391A-26	Sequence 26, Appli
34	276.5	47.8	111	10	US-09-961-400-26	Sequence 26, Appli
35	275.5	47.7	111	10	US-09-948-391A-17	Sequence 17, Appli
36	271.5	47.0	110	10	US-09-948-391A-19	Sequence 19, Appli
37	157.5	27.2	169	13	US-10-016-447-2	Sequence 2, Appli
38	149	25.8	119	12	US-10-016-248-89	Sequence 103, App
39	149	25.8	119	15	US-10-074-978A-139	Sequence 6, Appli
40	128.5	22.2	124	13	US-10-016-447-5	Sequence 139, App
41	125	21.6	124	12	US-10-037-417-103	Sequence 5, Appli
42	113	19.6	147	9	US-09-286-240-6	Sequence 103, App
43	113	19.6	147	9	US-09-863-777-2	Sequence 6, Appli
44	113	19.6	147	9	US-09-731-872-254	Sequence 2, Appli
45	113	19.6	147	10	US-09-876-997-254	Sequence 254, App

ALIGNMENTS

RESULT 1
US-09-961-400-2
; Sequence 2, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-2

Query Match 100.0%; Score 578; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.2e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 1 QDWLTQKKHLNTRDVCNIMSNLPHCKDKNTFYISRPVKAICKGIASKNVLTT 60
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Db 61 SEFYLDNCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVC 104

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RESULT 2
US-09-948-391A-6
; Sequence 6, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: Ribonuclease with Met at position 1 (recombinant
; OTHER INFORMATION: Met(-1) RapLr1)
US-09-948-391A-6

Query Match 100.0%; Score 578; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 1.3e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 2 QDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 61

QY 61 SEFYLSDCNVTSRPCYKYLKSKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 SEFYLSDCNVTSRPCYKYLKSKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 3
US-09-961-400-6
; Sequence 6, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-6

Query Match 100.0%; Score 578; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 1.3e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 61 SEFYLSDCNVTSRPCYKYLKSKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 SEFYLSDCNVTSRPCYKYLKSKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 4
US-09-948-391A-28
; Sequence 28, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: Rana pipiens ribonuclease (RapLr1) Clone 5alb cDNA
; OTHER INFORMATION: insert
US-09-948-391A-28

Query Match 100.0%; Score 578; DB 10; Length 127;
Best Local Similarity 100.0%; Pred. No. 1.6e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60
Db 24 QDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 83

QY 61 SEFYLSDCNVTSRPCYKYLKSKSTNTFCVTCENQAPVHFVGVGHC 104
Db 84 SEFYLSDCNVTSRPCYKYLKSKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 5
US-09-961-400-28
; Sequence 28, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28
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; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28

Query Match 100.0%; Score 578; DB 10; Length 127;
Best Local Similarity 100.0%; Pred. No. 1.6e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
DB 24 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 83
QY 61 SEFYSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104
DB 84 SEFYSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 127

RESULT 6
US-09-961-400-9
; Sequence 9, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-9

Query Match 99.5%; Score 575; DB 10; Length 111;
Best Local Similarity 99.0%; Pred. No. 3e-58;
Matches 103; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
DB 8 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 67
QY 61 SEFYSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104
DB 68 SEFYSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 111

RESULT 7
US-09-948-391A-11
; Sequence 11, Application US/09948391A
; Publication No. US20030207311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America

; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor Rnase
; FILE REFERENCE: Q15280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Gln1Ser substitution
; OTHER INFORMATION: (recombinant Rnase1 Q1S)
US-09-948-391A-11

Query Match 99.1%; Score 573; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 4.7e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
DB 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
QY 62 EFYLSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104
DB 62 EFYLSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104

RESULT 8
US-09-961-400-11
; Sequence 11, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-11

Query Match 99.1%; Score 573; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 4.7e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
DB 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
QY 62 EFYLSDCNVTSRCPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104

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Db 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104
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RESULT 9
US-09-948-391A-13
; Sequence 13, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Gln58r
; OTHER INFORMATION: substitution (recombinant Met(-1) RnPLR1 Q1S)
US-09-948-391A-13
Query Match 99.1%; Score 573; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 4.7e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
Db 3 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 62
QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104
Db 63 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
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RESULT 10
US-09-961-400-13
; Sequence 13, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
US-09-961-400-13
Query Match 99.1%; Score 573; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 4.7e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
Db 3 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 62
QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104
Db 63 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
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RESULT 11
US-09-948-391A-2
; Sequence 2, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: ribonuclease (RnPLR1)
US-09-948-391A-2
Query Match 98.4%; Score 569; DB 10; Length 104;
Best Local Similarity 99.0%; Pred. No. 1.3e-57;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 60
Db 1 QDWLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 60
QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104
Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
|||||
RESULT 12
US-09-948-391A-4
; Sequence 4, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
```

; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met23Leu substitution
; OTHER INFORMATION: (recombinant RapLR1 Met23Leu)
US-09-948-391A-4

Query Match 98.4%; Score 569; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 1.3e-57;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
Db 61 FEYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104

RESULT 13

US-09-961-400-4
; Sequence 4, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:

; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.1
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-4

Query Match 98.4%; Score 569; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 1.3e-57;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
Db 61 FEYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104

RESULT 14

US-09-961-400-8

; Sequence 8, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.1
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-8

Query Match 97.8%; Score 565; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 3.9e-57;
Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
QY 61 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
Db 62 FEYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 105

RESULT 15

US-09-948-391A-8
; Sequence 8, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:

; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: NEWTON, DIANNE L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Met24Leu
; OTHER INFORMATION: substitution (recombinant Met(-1) RapLR1 Met23Leu)
US-09-948-391A-8

Query Match

Best Local Similarity 96.9%; Score 560; DB 10; Length 105;
Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY	1	QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAI CKGIITASKNVLTT	60
Db	2	QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAI CKGIITASKNVLTT	61
QY	61	SEFYLSDCNVTSRPCKYKLKKSTNTEFCVTCENQAPVHFVGVGHC	104
Db	62	SEFYLSDCNVTSRPCKYKLKKSTNTEFCVTCENQAPVHFVGVGHC	105

Search completed: May 7, 2004, 21:51:55
Job time : 33.3695 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:25:55 ; Search time 44.363 Seconds
(without alignments)
662.376 Million cell updates/sec

Title: US-09-961-400-2

Perfect score: 578

Sequence: 1 QDWLTFQKKHLNTRDVCN.....TPCVTCENQAPVHFVGVGHC 104

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A.Geneseq_29Jan04.*
1: geneseqp1980s.*
2: geneseqp1990s.*
3: geneseqp2000s.*
4: geneseqp2001s.*
5: geneseqp2002s.*
6: geneseqp2003as.*
7: geneseqp2003bs.*
8: geneseqp2004s.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB	ID	Description
1	578	100.0	104	2	AAW28865	Rana pipiens
2	578	100.0	105	2	AAW28867	Recombinant
3	578	100.0	127	2	AAW28879	Rana pipiens
4	575	99.5	104	2	AAW28866	Recombinant
5	575	99.5	105	2	AAW28869	Recombinant
6	573	99.1	104	2	AAW28870	Recombinant
7	573	99.1	105	2	AAW28871	Recombinant
8	558	96.5	104	2	AAW06544	Antitumour
9	556	96.2	104	2	AAW30301	Recombinant
10	556	96.2	104	4	AAW31666	Amino acid
11	556	96.2	104	5	ABG32650	Northern
12	556	96.2	379	2	AAW35126	R. pipiens
13	553	95.7	104	2	AAW12344	Protein w
14	553	95.7	104	2	AAW47303	ONCONASE
15	553	95.7	104	2	AAW00736	Protein d
16	553	95.7	104	2	AAW14065	Onconase
17	553	95.7	104	2	AAW06543	Rana pipiens
18	553	95.7	104	2	AAW88233	Rana pipiens
19	553	95.7	104	2	AAW33322	Frog onco
20	553	95.7	105	2	AAW35123	R. pipiens
21	553	95.7	105	2	AAW39400	Recombinant
22	553	95.7	355	2	AAW35125	R. pipiens
23	553	95.7	358	2	AAW35130	R. pipiens
24	551	95.3	106	2	AAW35122	R. pipiens
25	551	95.3	107	2	AAW35117	R. pipiens

26	551	95.3	112	2	AAW35118	R. pipiens
27	551	95.3	251	2	AAW35134	R. pipiens
28	551	95.3	254	2	AAW35135	R. pipiens
29	551	95.3	355	2	AAW35133	R. pipiens
30	551	95.3	355	2	AAW35129	R. pipiens
31	551	95.3	366	2	AAW35132	R. pipiens
32	550	95.2	104	2	AAW30302	Recombinant
33	548	94.8	104	2	AAW18224	Antitumour
34	548	94.8	104	4	AAW31667	Amino acid
35	548	94.8	104	5	ABG31617	Northern
36	546	94.5	105	2	AAW35115	R. pipiens
37	546	94.5	105	2	AAW35116	R. pipiens
38	542	93.8	358	2	AAW35127	R. pipiens
39	542	93.8	365	2	AAW35131	R. pipiens
40	527	91.2	107	2	AAW35120	R. pipiens
41	490	84.8	360	2	AAW35128	R. pipiens
42	483.5	83.7	111	2	AAW35121	R. pipiens
43	445	77.0	83	2	AAW35119	R. pipiens
44	445	77.0	83	2	AAW88234	Rana pipi
45	289	50.0	111	2	AAW33321	Frog lect

ALIGNMENTS

RESULT 1
AAW28865
ID AAW28865 standard; protein; 104 AA.
XX
AC AAW28865;
XX
DT 25-JAN-2000 (first entry)
XX
DE Rana pipiens liver ribonuclease (RaPLR1).
XX
KW Rana pipiens liver ribonuclease; RaPLR1; covalently bound; L12 antibody;
KW ligand binding moiety; CD22; cancerous B cell; Kaposi's Sarcoma; frog;
KW human chorionic gonadotropin; hCG; recombinant ribonuclease; RNase;
KW signal peptide; cytotoxic fusion protein; cancer; autoimmune disease.
XX
OS Rana pipiens.
XX
FN WO950398-A2.
XX
PD 07-OCT-1999.
XX
PF 26-MAR-1999; 99WO-US006641.
XX
PR 27-MAR-1999; 98US-0079751P.
XX
(USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
RYbak SM, Newton DL;
XX
WPI; 1999-610847/52.
XX
N-PSDB; AAZ08124.
XX
New recombinant ribonucleases, used for killing target cells, e.g. for
treating cancers, viral infections or autoimmune diseases.
XX
Claim 1; Page 55; 71pp; English.
XX
The present sequence is Rana pipiens liver ribonuclease (RaPLR1) protein.
XX
Carboxy terminal end of RaPLR1 has a covalently bound ligand binding
XX
moiety, which can be a L12 antibody directed against CD22 on cancerous B
XX
cells or human chorionic gonadotropin (hCG) effective against Kaposi's
XX
Sarcoma cells. Recombinant ribonucleases can be expressed in bacteria
XX
without an N-terminal methionine due to the presence of a signal peptide
XX
that is cleaved by bacteria. The soluble expression of ribonuclease
XX
allows the proteins to be fused in-frame with ligand binding moieties to
XX
form cytotoxic fusion proteins. They can be used for treatment of cancer
XX
and autoimmune diseases

Query Match 100.0%; Score 578; DB 2; Length 127;
Best Local Similarity 100.0%; Pred. No. 5.9e-62;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QDWLTFOKKHLTNTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
DB 24 QDWLTFOKKHLTNTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 83
QY 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 104
DB 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 127

RESULT 4
AAAY28866
ID AAY28866 standard; protein; 104 AA.
XX
AC AAY28866;
DT 25-JAN-2000 (first entry)
DE Recombinant RapLR1 Met23Leu amino acid sequence.
XX
KW Recombinant Rana pipiens ribonuclease; RapLR1 Met23Leu; covalently bound;
LL2 antibody; ligand binding moiety; CD22; cancerous B cell; RNase;
KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
KW autoimmune disease.
XX
OS Rana pipiens.
OS Synthetic.
FH Key Location/Qualifiers
FT Misc-difference 23 /note= "Wild type Met replaced with Leu"
FT
XX WO9950398-A2.
XX
XX 07-OCT-1999.
XX
XX 26-MAR-1999; 99WO-US006641.
XX
XX 27-MAR-1998; 98US-0079751P.
XX
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
XX Rybak SM, Newton DL;
XX
XX WPI; 1999-610847/52.
XX
XX N-PSDB; AAZ08125.
XX
XX New recombinant ribonucleases, used for killing target cells, e.g. for
treating cancers, viral infections or autoimmune diseases.
XX
XX Claim 34; Page 56; 71pp; English.
XX
XX The present sequence is a recombinant Rana pipiens ribonuclease (RapLR1)
protein with Met23Leu. Carboxy terminal end of recombinant RapLR1 has a
covalently bound ligand binding moiety, which can be a LL2 antibody
directed against CD22 on cancerous B cells or human chorionic
gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant
ribonucleases can be expressed in bacteria without an N-terminal
methionine due to the presence of a signal peptide that is cleaved by
bacteria. The soluble expression of ribonuclease allows the proteins to
be fused in-frame with ligand binding moieties to form cytotoxic fusion
proteins. They can be used for treatment of cancer and autoimmune
diseases
XX
XX Sequence 104 AA;

Query Match 99.5%; Score 575; DB 2; Length 104;
Best Local Similarity 99.0%; Pred. No. 1.1e-61;
Matches 103; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QDWLTFOKKHLTNTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
DB 1 QDWLTFOKKHLTNTRDVDCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 104
DB 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 104

RESULT 5
AAAY28869
ID AAY28869 standard; protein; 105 AA.
XX
AC AAY28869;
DT 25-JAN-2000 (first entry)
DE Recombinant Met (-1) RapLR1 Met23Leu- (His)6 protein.
XX
KW Recombinant Met (-1) Rana pipiens ribonuclease Met23Leu- (His)6; RapLR1;
CD22; covalently bound; LL2 antibody; ligand binding moiety; RNase;
KW cancerous B cell; Kaposi's sarcoma; human chorionic gonadotropin; hCG;
KW signal peptide; recombinant ribonuclease; cytotoxic fusion protein;
KW cancer; frog; autoimmune disease.
XX
OS Rana pipiens.
OS Synthetic.
FH Key Location/Qualifiers
FT Misc-difference 1 /note= "Met not found in wild type RapLR1."
FT
FT Misc-difference 1 /note= "(His)6 histidine tag attached to N-terminal Met"
FT Misc-difference 24 /note= "Wild type Met replaced with Leu"
XX
XX WO9950398-A2.
XX
XX 07-OCT-1999.
XX
XX 26-MAR-1999; 99WO-US006641.
XX
XX 27-MAR-1998; 98US-0079751P.
XX
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
XX Rybak SM, Newton DL;
XX
XX WPI; 1999-610847/52.
XX
XX N-PSDB; AAZ08127.
XX
XX New recombinant ribonucleases, used for killing target cells, e.g. for
treating cancers, viral infections or autoimmune diseases.
XX
XX Claim 4; Page 59; 71pp; English.
XX
XX The present sequence is a recombinant Rana pipiens ribonuclease protein
(RapLR1) with Met at position 1 attached to (His)6 tag and Met24Leu.
Carboxy terminal end of recombinant RapLR1 has a covalently bound ligand
binding moiety, which can be a LL2 antibody directed against CD22 on
cancerous B cells or human chorionic gonadotropin (hCG) effective
against Kaposi's sarcoma cells. Recombinant ribonucleases can be
expressed in bacteria without an N-terminal methionine due to the
presence of a signal peptide that is cleaved by bacteria. The soluble
expression of ribonuclease allows the proteins to be fused in-frame with
ligand binding moieties to form cytotoxic fusion proteins. They can be
used for treatment of cancer and autoimmune diseases
XX
XX Sequence 105 AA;

Query Match 99.5%; Score 575; DB 2; Length 105;
Best Local Similarity 99.0%; Pred. No. 1.1e-61;

Matches 103; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 Db 2 QDLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 62 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 6

AAY28870

ID AAY28870 standard; protein; 104 AA.

XX

AC AAY28870;

XX

DT 25-JAN-2000 (first entry)

XX

Recombinant RaPLR1 Gln1Ser amino acid sequence.

XX

KW Recombinant Rana pipiens ribonuclease; RaPLR1 Gln1Ser; covalently bound;
 LL2 antibody; ligand binding moiety; CD22; cancerous B cell; frog;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; RNase;
 KW autoimmune disease.

XX

OS Rana pipiens.

OS

Synthetic.

XX

FH Key Location/Qualifiers

FT

Misc-difference 1 /note= "Wild type Gln replaced with Ser"

FT

XX

WO9950398-A2.

XX

PD 07-OCT-1999.

XX

PF 26-MAR-1999; 99WO-US006641.

XX

PR 27-MAR-1998; 98US-0079751P.

XX

(USSH) US DEPT HEALTH & HUMAN SERVICES.

XX

Rybak SM, Newton DL;

XX

WPI; 1999-610847/52.

XX

DR N-PSDB; AAZ08129.

XX

New recombinant ribonucleases, used for killing target cells, e.g. for

XX

treating cancers, viral infections or autoimmune diseases.

XX

Claim 34; Page 60; 71pp; English.

XX

CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Gln1Ser. Carboxy terminal end of recombinant RaPLR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

XX

SQ Sequence 104 AA;

Query Match 99.1%; Score 573; DB 2; Length 104;
 Best Local Similarity 100.0%; Pred. No. 1.9e-61;

Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61

Db 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 7

AAY28871

ID AAY28871 standard; protein; 105 AA.

XX

AC AAY28871;

XX

DT 25-JAN-2000 (first entry)

XX

Recombinant Met(-1) RaPLR1 Gln1Ser amino acid sequence.

XX

KW Recombinant Met(-1) Rana pipiens ribonuclease Gln1Ser; RaPLR1; CD22;
 covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease; RNase.

XX

OS Rana pipiens.

OS

Synthetic.

XX

FH Key Location/Qualifiers

FT

Misc-difference 1

FT

/note= "Met not found in wild type RaPLR1"

FT

Misc-difference 2

FT

/note= "Wild type Gln replaced with Ser"

XX

WO9950398-A2.

XX

PD 07-OCT-1999.

XX

PF 26-MAR-1999; 99WO-US006641.

XX

PR 27-MAR-1998; 98US-0079751P.

XX

(USSH) US DEPT HEALTH & HUMAN SERVICES.

XX

PT New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.

XX

Claim 34; Page 61; 71pp; English.

XX

CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1 and Gln2Ser. Carboxy terminal end of
 CC recombinant RaPLR1 has a covalently bound ligand binding moiety, which
 CC can be a LL2 antibody directed against CD22 on cancerous B cells or human
 CC chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells.
 CC Recombinant ribonucleases can be expressed in bacteria without an N-
 CC terminal methionine due to the presence of a signal peptide that is
 CC cleaved by bacteria. The soluble expression of ribonuclease allows the
 CC proteins to be fused in-frame with ligand binding moieties to form
 CC cytotoxic fusion proteins. They can be used for treatment of cancer and
 CC autoimmune diseases

XX

SQ Sequence 105 AA;

Query Match 99.1%; Score 573; DB 2; Length 105;
 Best Local Similarity 100.0%; Pred. No. 1.9e-61;

Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61

Db 3 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 62
 QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 63 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 8
 AAW06544
 ID AAW06544 standard; protein; 104 AA.
 XX AC AAW06544;
 XX DT 22-AUG-1997 (first entry)
 XX DE Antitumour protein from Rana pipiens oocytes.
 XX KW Tumour; chemotherapy; radiotherapy; frog.
 XX OS Rana pipiens.
 XX PN WO9639428-A1.
 XX PD 12-DEC-1996.
 XX PF 03-JUN-1996; 96WO-US008304.
 XX PR 06-JUN-1995; 95US-00467955.
 XX PA (ALFA-) ALFACELL CORP.
 XX PI Ardelt WJ;
 XX DR WPI; 1997-043063/04.
 XX PT Antitumour proteins from Rana pipiens oocyte(s) - have fewer
 XX PT disadvantages than chemotherapy, surgery and radiotherapy.
 XX PS Claim 8; Page 28; 45pp; English.
 XX CC The present sequence is a specifically claimed example of an antitumour
 XX CC protein from the generic protein in AAW18224, with the molecular weight
 XX CC 12000. This is one of two preferred proteins (the other in AAW06543) that
 XX CC have been isolated from Rana pipiens oocytes. Both proteins have a
 XX CC blocked amino terminal group and are essentially free of carbohydrates.
 XX CC The proteins are used to treat tumours. Use of the peptides has fewer
 XX CC disadvantages than chemotherapy, radiotherapy and surgery in the
 XX CC treatment of tumours

SQ Sequence 104 AA;
 Query Match 96.5%; Score 558; DB 2; Length 104;
 Best Local Similarity 96.2%; Pred. No. 1.2e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60
 Db 1 EDWLTFFQKKHVTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 9
 AAW30301
 ID AAW30301 standard; protein; 104 AA.
 XX AC AAW30301;
 XX DT 09-JUN-1998 (first entry)
 XX DE Recombinant onc protein.

Query Match 96.2%; Score 556; DB 2; Length 104;
 Best Local Similarity 96.2%; Pred. No. 2.1e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60
 Db 1 QDWLTFQKKHVTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 10
 AAB31666
 ID AAB31666 standard; protein; 104 AA.
 XX AC AAB31666;
 XX DT 30-APR-2001 (first entry)
 XX DE Amino acid sequence of a frog ribonuclease protein.
 XX KW Frog; ribonuclease; ranpirnase; RNase.
 XX OS Rana pipiens.
 XX FH Key Location/Qualifiers
 XX FT Modified-site 1
 XX FT /note= "this Gln is autocyclised to pyroglutamic acid"

XX US6175003-B1.
 XX PD 16-JAN-2001.
 XX PF 10-SEP-1999; 99US-00394268.
 XX PR 10-SEP-1999; 99US-00394268.

XX Onc; oncanase; ribonuclease; frog; antitumour; pancreatic cancer;
 KW human immunodeficiency virus type-1; HIV1; replication.
 XX OS Rana pipiens.
 XX PN WO9738112-A1.
 XX PD 16-OCT-1997.
 XX PF 04-APR-1997; 97WO-US005675.
 XX PR 04-APR-1996; 96US-00626288.
 XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX PI Youle RJ, Vasandani VM, Wu Y, Boix E, Ardelt W;
 XX DR WPI; 1997-512725/47.
 XX PT Recombinant Onc protein with glutamine residue at position 1 - useful as
 XX PT antitumour and antiviral agent, also as cell culture selection agent.
 XX PS Claim 1; Page 28; 35pp; English.
 XX CC This sequence represents a recombinant Onc protein comprising a 104 amino
 XX CC acid sequence having Gln at position 1. Onc, a ribonuclease from Rana
 XX CC pipiens oocytes, is known as an antitumour agent (e.g. for treating
 XX CC pancreatic cancer) and inhibitor of human immunodeficiency virus type-1
 XX CC replication. It can be used therapeutically or as a cell-culture
 XX CC selection agent, e.g. to identify gene therapy compositions able to
 XX CC inhibit tumour growth

SQ Sequence 104 AA;
 Query Match 96.2%; Score 556; DB 2; Length 104;
 Best Local Similarity 96.2%; Pred. No. 2.1e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60
 Db 1 QDWLTFQKKHVTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

XX (ALFA-) ALFACELL CORP.
 XX Saxena SK;
 PI WPI; 2001-167808/17.
 XX
 DR New nucleic acids encoding a ribonuclease (Rnase), useful for the precise
 PT targeting of Rnase to a predetermined cell receptor.
 XX
 PS Claim 1; Col 5-6; 7pp; English.
 XX
 CC The present sequence represents a frog ribonuclease protein (ranpirnase)
 CC (Rnase). The specification describes a synthetic ribonuclease protein, in
 CC which the addition of cysteine in the ribonuclease facilitates the
 CC chemical linking of a targeting molecule by the single reactive
 CC sulfhydryl group. The specification also describes a method for the
 CC production of ranpirnase using DNA technology instead of processing
 CC biological material. The re-engineering of the protein molecule allows
 CC easier attachment to a targeting molecule thereby making it possible for
 CC the ribonuclease to be delivered to a particular cell receptor where it
 CC might be most effective
 XX
 SQ Sequence 104 AA;

Query Match 96.2%; Score 556; DB 4; Length 104;
 Best Local Similarity 96.2%; Pred. No. 2.1e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 1 QDWLTQKKHLNTRDVCNINMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 DB 1 QDWLTQKKHITNTRDVCNINMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 DB 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 11
 ABG32650
 ID ABG32650 standard; protein; 104 AA.
 XX
 AC ABG32650;
 XX
 DT 15-NOV-2002 (first entry)
 XX
 DE Northern leopard frog ranpirnase protein.
 XX
 KW Northern leopard frog; ranpirnase; site-directed mutation; ribonuclease.
 XX
 OS Rana pipiens.
 XX
 PN US6423515-B1.
 XX
 PD 23-JUL-2002.
 XX
 PF 14-OCT-2000; 2000US-00687748.
 XX
 PR 10-SEP-1999; 99US-00394268.
 XX
 PA (ALFA-) ALFACELL CORP.
 XX
 PI Saxena SK;
 XX
 DR WPI; 2002-664633/71.
 XX
 PT Constructing isolated nucleic acid encoding ribonuclease, by subjecting
 PT desired recombinant plasmid DNA to different site-directed mutations to
 PT produce nucleic acid, using different polymerase chain reaction
 PT protocols.
 XX
 PS Claim 1; Col 5-6; 8pp; English.
 XX

CC The present invention relates to a new method of constructing isolated
 CC nucleic acid encoding ribonuclease protein with N-terminal Met at
 CC position -1 and Glu at position 1, where its Met has been cleaved and its
 CC Glu has been autocyclised. The method of the invention involves
 CC subjecting pET11d-rOnc(Q1,M23L) plasmid DNA to two different site-
 CC directed mutations, each using overlapping PCR protocol. The method is
 CC useful for constructing an isolated nucleic acid encoding the
 CC ribonuclease. The present amino acid sequence represents the northern
 CC leopard frog ranpirnase protein of the invention
 XX
 SQ Sequence 104 AA;

Query Match 96.2%; Score 556; DB 5; Length 104;
 Best Local Similarity 96.2%; Pred. No. 2.1e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 1 QDWLTQKKHLNTRDVCNINMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 DB 1 QDWLTQKKHITNTRDVCNINMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 DB 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 12
 AAW35126
 ID AAW35126 standard; protein; 379 AA.
 XX
 AC AAW35126;
 XX
 DT 20-APR-1998 (first entry)
 XX
 DE R. pipiens recombinant RNase rOnc fusion protein 2.
 XX
 KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 XX
 OS Rana pipiens.
 OS Synthetic.
 XX
 PN WO9731116-A2.
 XX
 PD 28-AUG-1997.
 XX
 PF 19-FEB-1997; 97WO-US002588.
 XX
 PR 21-FEB-1996; 96US-0011800P.
 XX
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Rybak SM, Newton DL, Boque L, Wlodawer A;
 XX
 DR WPI; 1997-435168/40.
 DR N-PSDB; AAT94964.
 XX
 PT Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 XX
 PS Disclosure; Page 68; 90pp; English.
 XX
 CC Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (rOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans


```
DE Protein derived from frogs eggs.
XX
KW Rana pipiens; ovarian adenocarcinoma NIH-OVCAR03 cell; frog; egg;
KW submaxillary epidermoid carcinoma A-253 cell; tumour; human;
KW leukaemic HL-60 cell; COLO 320 DM cell; colon adenocarcinoma;
KW LOX melanoma; lung squamous carcinoma HT-520 cell.
XX
OS Rana pipiens.
XX
PN US5559212-A.
XX
PD 24-SEP-1996.
XX
PF 01-AUG-1994; 94US-00283970.
XX
PR 06-APR-1988; 88US-00178118.
PR 13-NOV-1989; 89US-00436141.
PR 03-FEB-1992; 92US-00814332.
XX
PA (ALFA-) ALFACELL CORP.
XX
PI Ardelt WJ;
XX
DR WPI; 1996-442459/44.
XX
PT New isolated Rana pipiens frog protein - useful for the treatment of
PT tumours.
XX
PS Claim 1; Col 8; 7pp; English.
XX
CC This sequence represents a protein which was prepared by homogenisation
CC of Rana pipiens frogs eggs. This protein is used for treating tumours in
CC humans. Especially this protein was active against human submaxillary
CC epidermoid carcinoma A-253 cells; human ovarian adenocarcinoma NIH-
CC OVCAR03 cells; human leukaemic HL-60 cells; human COLO 320 DM cells
CC originally isolated from colon adenocarcinoma, human LOX melanoma and
CC human lung squamous carcinoma HT-520 cells. (Updated on 25-MAR-2003 to
CC correct PF field.)
XX
SQ Sequence 104 AA;

Query Match 95.7%; Score 553; DB 2; Length 104;
Best Local Similarity 95.2%; Pred. No. 5e-59;
Matches 99; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
Db :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
1 EDWLTQKKHITNRDVCDDNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
QY 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104
Db :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104

Search completed: May 7, 2004, 21:38:26
Job time : 45.363 secs
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US-09-095-429-1

Sequence 1, Application US/09095429

Patent No. 6649393

GENERAL INFORMATION:

APPLICANT: Youle, Richard

APPLICANT: Vasandani, Veena

APPLICANT: Wu, Yon-Neng

APPLICANT: Boix, Ester

APPLICANT: Ardelt, Wojciech

TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which

TITLE OF INVENTION: Allows Production by Recombinant Methods

NUMBER OF SEQUENCES: 3

CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Crew LLP

STREET: One Market Plaza, Steuart Street Tower

CITY: San Francisco

STATE: California

COUNTRY: USA

ZIP: 94105-1492

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/095,429

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/626,288

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Ran, David B.

REGISTRATION NUMBER: 38,589

REFERENCE/DOCKET NUMBER: 15280-267

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 543-9600

TELEFAX: (415) 543-5043

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 104 amino acids

TYPE: amino acid

STRANDEDNESS:

TOPOLOGY: linear

MOLECULE TYPE: protein

US-09-095-429-1

Query Match 96.2%; Score 556; DB 4; Length 104;

Best Local Similarity 96.2%; Pred. No. 3.7e-60;

Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

Db 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 61 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGHC 104

Db 61 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGSC 104

RESULT 6

US-08-875-811-63

Sequence 63, Application US/08875811

Patent No. 6045793

GENERAL INFORMATION:

APPLICANT: Rybak, Susanna M.

APPLICANT: Newton, Dianne L.

APPLICANT: Boque, Lluís

APPLICANT: Wlodawer, Alexander

TITLE OF INVENTION: Recombinant Ribonuclease Proteins

NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Crew LLP

STREET: One Market Plaza, Steuart Street Tower

CITY: San Francisco

STATE: California

COUNTRY: USA

ZIP: 94105-1492

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/875,811

FILING DATE: 19-FEB-1998

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588

FILING DATE: 19-FEB-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 60/011,800

FILING DATE: 21-FEB-1996

ATTORNEY/AGENT INFORMATION:

NAME: Paris, Susan K.

REGISTRATION NUMBER: 41,739

REFERENCE/DOCKET NUMBER: 015280-244100US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 576-0200

TELEFAX: (415) 576-0300

INFORMATION FOR SEQ ID NO: 63:

SEQUENCE CHARACTERISTICS:

LENGTH: 129 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-875-811-63

Query Match 96.2%; Score 556; DB 3; Length 129;

Best Local Similarity 96.2%; Pred. No. 4.9e-60;

Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

Db 26 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 85

QY 61 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGHC 104

Db 86 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGSC 129

RESULT 7

US-08-875-811-43

Sequence 43, Application US/08875811

Patent No. 6045793

GENERAL INFORMATION:

APPLICANT: Rybak, Susanna M.

APPLICANT: Newton, Dianne L.

APPLICANT: Boque, Lluís

APPLICANT: Wlodawer, Alexander

TITLE OF INVENTION: Recombinant Ribonuclease Proteins

NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Crew LLP

STREET: One Market Plaza, Steuart Street Tower

CITY: San Francisco

STATE: California

COUNTRY: USA

ZIP: 94105-1492

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/875,811

FILING DATE: 19-FEB-1998

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588

FILING DATE: 19-FEB-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 60/011,800

FILING DATE: 21-FEB-1996

ATTORNEY/AGENT INFORMATION:

NAME: Paris, Susan K.

REGISTRATION NUMBER: 41,739

REFERENCE/DOCKET NUMBER: 015280-244100US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 576-0200

TELEFAX: (415) 576-0300

INFORMATION FOR SEQ ID NO: 63:

SEQUENCE CHARACTERISTICS:

LENGTH: 129 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-875-811-63

Query Match 96.2%; Score 556; DB 4; Length 104;

Best Local Similarity 96.2%; Pred. No. 3.7e-60;

Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

Db 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 61 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGHC 104

Db 61 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGSC 104

RESULT 6

US-08-875-811-63

Sequence 63, Application US/08875811

Patent No. 6045793

GENERAL INFORMATION:

APPLICANT: Rybak, Susanna M.

APPLICANT: Newton, Dianne L.

APPLICANT: Boque, Lluís

APPLICANT: Wlodawer, Alexander

TITLE OF INVENTION: Recombinant Ribonuclease Proteins

NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Crew LLP

STREET: One Market Plaza, Steuart Street Tower

CITY: San Francisco

STATE: California

COUNTRY: USA

ZIP: 94105-1492

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/875,811

FILING DATE: 19-FEB-1998

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588

FILING DATE: 19-FEB-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 60/011,800

FILING DATE: 21-FEB-1996

ATTORNEY/AGENT INFORMATION:

NAME: Paris, Susan K.

REGISTRATION NUMBER: 41,739

REFERENCE/DOCKET NUMBER: 015280-244100US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 576-0200

TELEFAX: (415) 576-0300

INFORMATION FOR SEQ ID NO: 63:

SEQUENCE CHARACTERISTICS:

LENGTH: 129 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-875-811-63

Query Match 96.2%; Score 556; DB 3; Length 129;

Best Local Similarity 96.2%; Pred. No. 4.9e-60;

Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

Db 26 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 85

QY 61 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGHC 104

Db 86 SEFYSLDCNVTSPCKYKLLKXSTNFCVTCENQAPVHFVGVGSC 129

RESULT 7

US-08-875-811-43

Sequence 43, Application US/08875811

Patent No. 6045793

GENERAL INFORMATION:

APPLICANT: Rybak, Susanna M.

APPLICANT: Newton, Dianne L.

APPLICANT: Boque, Lluís

APPLICANT: Wlodawer, Alexander

TITLE OF INVENTION: Recombinant Ribonuclease Proteins

NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Crew LLP

STREET: One Market Plaza, Steuart Street Tower

CITY: San Francisco

STATE: California

COUNTRY: USA

ZIP: 94105-1492

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/875,811

FILING DATE: 19-FEB-1998

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588

FILING DATE: 19-F

;; FILING DATE: 19-FEB-1998
;; CLASSIFICATION: 435
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: WO PCT/US97/02588
;; FILING DATE: 19-FEB-1997
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: US 60/011,800
;; FILING DATE: 21-FEB-1996
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Paris, Susan K.
;; REGISTRATION NUMBER: 41,739
;; REFERENCE/DOCKET NUMBER: 015280-244100US
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (415) 576-0200
;; TELEFAX: (415) 576-0300
;; INFORMATION FOR SEQ ID NO: 43:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 379 amino acids
;; TYPE: amino acid
;; TOPOLOGY: linear
;; MOLECULE TYPE: protein
US-08-875-811-43

Query Match 36.2%; Score 556; DB 3; Length 379;
Best Local Similarity 96.2%; Pred. No. 2e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTQKHLNTRDWDNNIMSTNLFHCKDKNTFYSPPEVKAICKGIIASKNVLTT 60
Db 26 QDWLTQKHLNTRDWDNNIMSTNLFHCKDKNTFYSPPEVKAICKGIIASKNVLTT 85

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 86 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 129

RESULT 8
US-08-283-971-1
; Sequence 1, Application US/08283971
; Patent No. 5529775
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; APPLICANT: Mikulski, Stanislaw M.
; TITLE OF INVENTION: PHARMACEUTICAL FOR TREATING TUMORS IN HUMANS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.C.
; STREET: P.O. Box 020083, General Post Office
; CITY: Brooklyn
; STATE: New York
; COUNTRY: USA
; ZIP: 11202-0002
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/283,971
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/921,180
; FILING DATE: 30-JUL-1992
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; ATTORNEY/AGENT INFORMATION:
; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5006 US

;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 718-625-0399
;; TELEFAX: 718-625-0399
;; TELEX: No. 5529775 Applicable
;; INFORMATION FOR SEQ ID NO: 1:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 104 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: protein
;; HYPOTHETICAL: N
;; ANTI-SENSE: N
;; FRAGMENT TYPE: N-terminal
;; ORIGINAL SOURCE:
;; ORGANISM: Rana pipiens
;; DEVELOPMENTAL STAGE: Embryo
US-08-283-971-1

Query Match 95.7%; Score 553; DB 1; Length 104;
Best Local Similarity 95.2%; Pred. No. 8.5e-60;
Matches 99; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTQKHLNTRDWDNNIMSTNLFHCKDKNTFYSPPEVKAICKGIIASKNVLTT 60
Db 1 EDWLTQKHLNTRDWDNNIMSTNLFHCKDKNTFYSPPEVKAICKGIIASKNVLTT 60

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 9
US-07-921-619-1
; Sequence 1, Application US/07921619
; Patent No. 5595734
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; APPLICANT: Mikulski, Stanislaw M.
; TITLE OF INVENTION: PHARMACEUTICAL FOR TREATING TUMORS IN HUMANS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.C.
; STREET: P.O. Box 020083, General Post Office
; CITY: Brooklyn
; STATE: New York
; COUNTRY: USA
; ZIP: 11202-0002
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/921,619
; FILING DATE: 19920728
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; ATTORNEY/AGENT INFORMATION:
; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5005 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 718-625-0399
; TELEX: No. 5595734 Applicable
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:

RESULT 14

US-08-875-811-51
; Sequence 51, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluis
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:

ADDRESSER: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998
CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:

NAME: Paris, Susan K.
REGISTRATION NUMBER: 41,739
REFERENCE/DOCKET NUMBER: 015280-244100US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200

TELEFAX: (415) 576-0300

INFORMATION FOR SEQ ID NO: 51:

SEQUENCE CHARACTERISTICS:

LENGTH: 358 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-875-811-51

Query Match 95.7%; Score 553; DB 3; Length 358;
Best Local Similarity 95.2%; Pred. No. 4.3e-59;
Matches 99; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 QWLTQKHLNTRVDVCDNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

DB 2 EWLTFQKHITNTRVDVCDNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

DB 62 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 105

RESULT 15

US-08-875-811-1

; Sequence 1, Application US/08875811

; Patent No. 6045793

; GENERAL INFORMATION:

; APPLICANT: Rybak, Susanna M.

; APPLICANT: Newton, Dianne L.

; APPLICANT: Boque, Lluis

; APPLICANT: Wlodawer, Alexander

; TITLE OF INVENTION: Recombinant Ribonuclease Proteins

; NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:

ADDRESSER: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998
CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:

NAME: Paris, Susan K.
REGISTRATION NUMBER: 41,739
REFERENCE/DOCKET NUMBER: 015280-244100US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200

TELEFAX: (415) 576-0300

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 104 amino acids

TYPE: amino acid

STRANDEDNESS:

TOPOLOGY: linear

MOLECULE TYPE: protein

FEATURE:

NAME/KEY: Protein

LOCATION: 1..104

OTHER INFORMATION: /label= nOnc

OTHER INFORMATION: /note= "native ONCONASE (Registered
REFERENCE/DOCKET NUMBER: 015280-244100US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200

FEATURE:

NAME/KEY: Modified-site

LOCATION: 1

OTHER INFORMATION: /note= "Xaa = pyroglutamic acid"

US-08-875-811-1

Query Match 95.3%; Score 551; DB 3; Length 104;
Best Local Similarity 96.1%; Pred. No. 1.5e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 DMLTFQKHLNTRVDVCDNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61

DB 2 DMLTFQKHITNTRVDVCDNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61

QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

DB 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

Search completed: May 7, 2004, 21:40:43
Job time : 13.0636 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:30:40 ; Search time 5.25351 Seconds
(without alignments)
1030.796 Million cell updates/sec

Title: US-09-961-400-2

Perfect score: 578

Sequence: 1 QDWLTFQXKHLNTRDVCN.....TFCVTCENQAPVHFVGVGHC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	556	96.2	104	1 RN30 RANPI	P22069 rana pipien
2	292	50.5	133	1 RNPO RANCA	P11516 rana catesb
3	285.5	49.4	111	1 LECS RANJA	P11839 rana japoni
4	269.5	46.6	111	1 RNPL RANCA	P14626 rana catesb
5	149	25.8	119	1 RNP IGUG	P80287 iguana igua
6	131	22.7	124	1 RNP GALMU	P00680 galea muste
7	130.5	22.6	145	1 ANGR MOUSE	Q64438 mus musculu
8	130.5	22.1	146	1 ANGI CERAE	Q8wn66 cercoptithe
9	128	22.1	148	1 ANGI BOVIN	P10152 bos taurus
10	126	21.8	128	1 RNP MYOCO	P00676 myocastor c
11	125	21.6	124	1 RNP BALAC	P00673 balaeopter
12	121.5	21.0	146	1 ANGI MACMU	Q8wn63 macaca mula
13	120	20.8	128	1 RNP PROGU	P04059 proechmys
14	119.5	20.7	145	1 ANGI MOUSE	P21570 mus musculu
15	119	20.6	128	1 RNPE CAVPO	P00679 cavia porce
16	118.5	20.5	146	1 ANGI PAPHA	Q8wn64 papio hamad
17	117	20.2	124	1 RNP CHTR	P00675 chinchilla
18	116	20.1	125	1 ANGI RABIT	P11347 oryctolagus
19	116	20.1	128	1 RNP HYDHY	P00677 hydrochoeru
20	114	19.7	124	1 RNP HIFAM	P00672 hippopotamu
21	114	19.7	146	1 ANGI MIOTA	Q8wn65 miopotithec
22	113.5	19.6	147	1 RNS4 PANTR	Q8hzq0 pan troglod
23	113	19.6	147	1 ANGI HUMAN	P03950 homo sapien
24	113	19.6	147	1 ANGI PANTR	Q8wme8 pan troglod
25	112	19.4	124	1 RNP FIG	P00671 sus scrofa
26	112	19.4	150	1 RNP BOVIN	P00656 bos taurus
27	112	19.4	156	1 RNP MYOGL	Q9wus1 myoxus glis
28	111.5	19.3	147	1 RNS4 HUMAN	P34096 homo sapien
29	111	19.2	128	1 RNP HORSE	P00674 equus cabal
30	111	19.2	128	1 RNP HYSER	P04060 hystrix cri
31	111	19.2	156	1 ECP3 MOUSE	C35290 mus musculu
32	111	19.2	167	1 RNBR BOVIN	P19873 bos taurus
33	110.5	19.1	123	1 ANGI_PIG	P11346 sus scrofa

RESULT 1

ID	RN30 RANPI	STANDARD;	PRT;	104 AA.
AC	P22069;			
DT	01-AUG-1991 (Rel. 19, Created)			
DT	01-FEB-1994 (Rel. 28, Last sequence update)			
DT	28-FEB-2003 (Rel. 41, Last annotation update)			
DE	P-30 protein (EC 3.1.27.-) (Onconase).			
OS	Rana pipiens (Northern leopard frog).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.			
OX	NCBI_TaxID=8404;			
RN	[1]			
RP	SEQUENCE.			
RC	TISSUE=Embryo;			
RX	MEDLINE=91093131; PubMed=1985896;			
RA	Ardelt W., Mikulski S.M., Shogen K.;			
RT	"Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and early embryos. Homology to pancreatic ribonucleases.";			
RL	J. Biol. Chem. 266:245-251(1991).			
RN	[2]			
RP	3D-STRUCTURE MODELING.			
RX	MEDLINE=93066156; PubMed=1438177;			
RA	Mosmann S.C., Johns K.L., Ardelt W., Mikulski S.M., Shogen K.,			
RA	James M.N.G.;			
RT	"Comparative molecular modeling and crystallization of P-30 protein: a novel antitumor protein of Rana pipiens oocytes and early embryos.";			
RL	Proteins 14:392-400(1992).			
RN	[3]			
RP	X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).			
RX	MEDLINE=94166079; PubMed=8120892;			
RA	Mosmann S.C., Ardelt W., James M.N.G.;			
RT	"Refined 1.7 A X-ray crystallographic structure of P-30 protein, an amphibian ribonuclease with anti-tumor activity.";			
RL	J. Mol. Biol. 236:1141-1153(1994).			
CC	-!- FUNCTION: Basic protein with antiproliferative/cytotoxic activity against several tumor cell lines in vitro, as well as antitumor in vivo. It exhibits a ribonuclease-like activity against high molecular weight ribosomal RNA.			
CC	-!- DEVELOPMENTAL STAGE: Early embryos (up to four blastomere stage).			
CC	-!- SIMILARITY: Belongs to the pancreatic ribonuclease family.			
DR	PDB; 1ONC; 31-JAN-94.			
DR	InterPro; IPR001427; RNaseA.			
DR	Pfam; PF00074; rnasea; 1.			
DR	ProDom; PD000535; RNaseA; 1.			
DR	SMART; SM00092; RNase_Pc; 1.			
DR	PROSITE; PS00127; RNASE_PANCREATIC; 1.			
KW	Hydrolase; Nuclease; Endonuclease; 3D-structure;			
KW	Pyridolone carboxylic acid.			
FT	MOD RES	1	1	PYRROLIDONE CARBOXYLIC ACID.
FT	ACT_SITE	10	10	
FT	ACT_SITE	31	31	
FT	ACT_SITE	97	97	
FT	DISULFID	19	68	
FT	DISULFID	30	75	

34	110.5	19.1	155	1	ECPI_MOUSE
35	110	19.0	141	1	RNBR_GIRCA
36	110	19.0	146	1	ANGI_SAGOB
37	110	19.0	151	1	RNBR_AXIPR
38	109	18.9	123	1	ANG2_BOVIN
39	109	18.9	124	1	RNPA_CAVPO
40	109	18.9	124	1	RNP_AEPME
41	109	18.9	124	1	RNP_ANTAM
42	109	18.9	124	1	RNP_SHEEP
43	109	18.9	146	1	ANGI_SALISC
44	108.5	18.8	150	1	RNS6_SALISC
45	108	18.7	124	1	RNP_BUBBU

ALIGNMENTS

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FT DISULFID 48 90
FT DISULFID 87 104
FT HELIX 3 10
FT STRAND 11 12
FT TURN 19 22
FT TURN 23 24
FT TURN 26 30
FT STRAND 33 38
FT HELIX 41 45
FT HELIX 46 48
FT TURN 49 50
FT STRAND 55 58
FT STRAND 63 70
FT TURN 74 75
FT STRAND 77 84
FT STRAND 86 91
FT TURN 92 93
FT STRAND 94 101
SQ SEQUENCE 104 AA; 11845 MW; 22A753C2F9B566B4 CRC64;

Query Match 96.2%; Score 556; DB 1; Length 104;
Best Local Similarity 96.2%; Pred. No. 8.7e-53;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKHLLTNRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLTT 60
Db 1 QDWLTFQKHLLTNRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLTT 60

QY 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 2
RNPO RANCA
ID RNPO RANCA STANDARD; PRT; 133 AA.
AC P11916; Q9PWR7;
DT 01-OCT-1989 (Rel. 12, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Ribonuclease, oocytes precursor (EC 3.1.27.-) (RC-RNase) (Sialic acid-binding lectin) (SBL-C).
DE binding lectin) (SBL-C).
GN RCR.
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranidae; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=98165825; PubMed=9497370;
RA Huang H.C., Wang S.C., Leu Y.J., Lu S.C., Liao Y.D.;
RT "The Rana catesbeiana rcr gene encoding a cytotoxic ribonuclease.
RT Tissue distribution, cloning, purification, cytotoxicity, and active
RT residues for RNase activity.";
RL J. Biol. Chem. 273:6395-6401(1998).
RN [2]
RP SEQUENCE OF 23-133.
RC TISSUE=Egg;
RX MEDLINE=87299649; PubMed=3304421;
RA Titani K., Takio K., Kuwada M., Nitta K., Sakakibara F., Kawauchi H.,
RA Takayanagi Y., Hakomori S.;
RT "Amino acid sequence of sialic acid binding lectin from frog (Rana
RT catesbeiana) eggs.";
RL Biochemistry 26:2189-2194(1987).
RN [3]
RP CHARACTERIZATION, AND SEQUENCE OF 81-101.
RX MEDLINE=92220613; PubMed=1373237;
RA Liao Y.-D.;
RT "A pyrimidine-guanine sequence-specific ribonuclease from Rana
RT catesbeiana (bullfrog) oocytes.";
RL Nucleic Acids Res. 20:1371-1377(1992).
RN [4]
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RP CHARACTERIZATION.
RC TISSUE=Egg;
RX MEDLINE=93192604; PubMed=8448385;
RA Nitta K., Oyama F., Oyama R., Sekiguchi K., Kawauchi H.,
RA Takayanagi Y., Hakomori S., Titani K.;
RT "Ribonuclease activity of sialic acid-binding lectin from Rana
RT catesbeiana eggs.";
RL Glycobiology 3:37-45(1993).
RN [5]
RP STRUCTURE BY NMR OF 23-133.
RX MEDLINE=98437383; PubMed=9761686;
RA Chang C.-F., Chen C., Chen Y.-C., Hom K., Huang R.-F., Huang T.H.;
RT "The solution structure of a cytotoxic ribonuclease from the oocytes
RT of Rana catesbeiana (bullfrog).";
RL J. Mol. Biol. 283:231-244(1998).
CC -1- FUNCTION: Preferentially cleaves single-stranded RNA at pyrimidine
CC residues with a 3'flanking guanine. Hydrolyzes poly(U) and poly(C)
CC as substrates, and prefers the former. The S-lectins in frog eggs
CC may be involved in the fertilization and development of the frog
CC embryo. This lectin agglutinates various animal cells, including
CC normal lymphocytes, erythrocytes, and fibroblasts of animal and
CC human origin. It is cytotoxic against several tumor cells.
CC -1- SUBUNIT: Monomer.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC -----
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CC -----
DR EMBL; AF039104; AAD10702.1; -
DR PIR; A27121; A27121.
DR PDB; 1BC4; 28-OCT-98.
DR PDB; 1M07; 21-JAN-03.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnasea; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase PC; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Sialic acid; Lectin; 3D-structure;
KW signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 22
FT CHAIN 23 133 RIBONUCLEASE, OOCYTES.
FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 32 32
FT ACT_SITE 57 57
FT ACT_SITE 125 125
FT DISULFID 41 93
FT DISULFID 56 103
FT DISULFID 74 118
FT DISULFID 115 132
FT HELIX 25 32
FT HELIX 41 45
FT TURN 48 49
FT STRAND 59 63
FT HELIX 67 73
FT TURN 74 74
FT STRAND 79 84
FT STRAND 90 95
FT STRAND 105 110
FT STRAND 114 119
FT TURN 120 121
FT STRAND 122 129
SQ SEQUENCE 133 AA; 14762 MW; A7D62594F7D16F0C CRC64;

Query Match 50.5%; Score 292; DB 1; Length 133;
Best Local Similarity 49.5%; Pred. No. 2e-24;
Matches 55; Conservative 16; Mismatches 32; Indels 8; Gaps 3;
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CC CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC CC with 2',3'-cyclic phosphate intermediates.
CC CC -!- SUBCELLULAR LOCATION: Secreted.
CC CC -!- TISSUE SPECIFICITY: Pancreas.
CC CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR HSP; P00656; IL5Q.
DR InterPro: IPR001427; RNaseA.
DR PRINTS; PR00794; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase Pc; 1.
DR PROSITE; PS00127; RNase PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Pyrrolidone carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT DISULFID 25 80 BY SIMILARITY.
FT DISULFID 39 91 BY SIMILARITY.
FT DISULFID 57 106 BY SIMILARITY.
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 40 40 BY SIMILARITY.
FT ACT_SITE 113 113 BY SIMILARITY.
SQ SEQUENCE 119 AA; 13324 MW; 6072FB5B7B15BD5A CRC64;

Query Match 25.8%; Score 149; DB 1; Length 119;
Best Local Similarity 30.7%; Pred. No. 3.5e-09;
Matches 35; Conservative 19; Mismatches 44; Indels 16; Gaps 5;

QY 1 QDWLTFQKKHL-----TNRDVCNNIM---STNLFHCKDKNTFYSRPEPVKAIC--K 49
Db 1 QDWSSFNKHIDYFETASNPAYCDLMMQRRNLPTKCKTRNTFVHASPSEIQVCGSG 60
QY 50 GILASKNVLTSB-FYLSDC-----NVTSPCKYKLLKSTNTFCVTCENQAPVHF 98
Db 61 GTHYENLDYNSFBLTDCNKGVTAPSSCKYNGTPTGKRIACENNQPVHF 114

RESULT 6
RNP GALMU
ID - RNP GALMU STANDARD; PRT; 124 AA.
AC P00680;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
GN RNASE1 OR RNS1.
OS Galea musteloides (Cuis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Galea.
OX NCBI_TaxID=10146;
RN [1]
RP SEQUENCE.
RX MEDLINE=87036770; PubMed=6571219;
RA Beintema J.; Neuteboom B.;
RT "Origin of the duplicated ribonuclease gene in guinea-pig: comparison
RT of the amino acid sequences with those of two close relatives:
RT capybara and cuis ribonuclease.";
RL J. Mol. Evol. 19:145-152(1983).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC CC with 2',3'-cyclic phosphate intermediates.
CC CC -!- SUBCELLULAR LOCATION: Secreted.
CC CC -!- TISSUE SPECIFICITY: Pancreas.
CC CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; A00827; NRUI.
DR HSP; P00656; LSRN.
DR InterPro: IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase Pc; 1.
DR PROSITE; PS00127; RNase PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease.

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FT DISULFID 26 84 BY SIMILARITY.
FT DISULFID 40 95 BY SIMILARITY.
FT DISULFID 58 110 BY SIMILARITY.
FT DISULFID 65 72 BY SIMILARITY.
FT ACT_SITE 12 12 BY SIMILARITY.
FT ACT_SITE 41 41 BY SIMILARITY.
FT ACT_SITE 119 119 BY SIMILARITY.
SQ SEQUENCE 124 AA; 13870 MW; 609C7E251A7BBA25 CRC64;

Query Match 22.7%; Score 131; DB 1; Length 124;
Best Local Similarity 30.6%; Pred. No. 3.1e-07;
Matches 37; Conservative 18; Mismatches 34; Indels 32; Gaps 7;

QY 4 LTFQKKHL-----TNRDVCNNIM---STNLFHCKDKNTFYSRPEPVKAICKGIIA 53
Db 6 MKFQRQHMDSDGHPDNTN--YCNEMVRESMTQGRCKPNTFVHEPLEAVQAVC---S 59
QY 54 SKNV-----LITSEFYLSDCVTSRP-----CKYKLLKSTNTFCVTCEN--QAPVH 97
Db 60 QKNVPCKNGQTCYQSHSSMRITDCRVTSKSKYPNCYSRMTQAKSIIVACEGTPSPVPH 119
QY 98 F 98
Db 120 F 120

RESULT 7
ANGR MOUSE
ID - ANGR MOUSE STANDARD; PRT; 145 AA.
AC Q6438;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Angiogenin-related protein precursor.
GN ANGRP.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=129; TISSUE=Liver;
RX MEDLINE=96079109; PubMed=8530072;
RA Brown W.E., Nobile V., Subramanian V., Shapiro R.;
RT "The mouse angiogenin gene family: structures of an angiogenin-related
RT protein gene and two pseudogenes.";
RL Genomics 29:200-206(1995).
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC CC
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CC or send an email to license@isb-sib.ch).
CC CC
CC EMBL; U22519; AAA91367.1; -.
CC HSP; P03950; 1A4Y.
CC MGD; MGI:104984; Angrp.
CC InterPro: IPR001427; RNaseA.
CC Pfam; PF00074; RNaseA; 1.
CC PRINTS; PR00794; RIBONUCLEASE.
CC ProDom; PD000535; RNase Pc; 1.
CC SMART; SM00092; RNaseA; 1.
CC PROSITE; PS00127; RNase PANCREATIC; 1.
KW Signal; Hydrolase; Nuclease; Endonuclease;
KW Pyrrolidone carboxylic acid.
FT SIGNAL 1 24 POTENTIAL.
FT CHAIN 25 145 ANGIOGENIN-RELATED PROTEIN.
FT MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).

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FT ACT SITE 37 37 BY SIMILARITY.
FT ACT SITE 64 64 BY SIMILARITY.
FT ACT SITE 137 137 BY SIMILARITY.
FT DISULFID 50 104 BY SIMILARITY.
FT DISULFID 63 115 BY SIMILARITY.
FT DISULFID 81 130 BY SIMILARITY.
SQ SEQUENCE 145 AA; 16612 MW; 29A6EB814429C4AD CRC64;

Query Match 22.6%; Score 130.5; DB 1; Length 145;
Best Local Similarity 38.2%; Pred. No. 4.1e-07;
Matches 29; Conservative 11; Mismatches 29; Indels 7; Gaps 3;

QY 30 CKDKNTFYISRPPEVKAIC--KGIILASKNV-LTTSEFYLSDCNVTSR-----PCKYKLKKS 82
Db 63 CKDVNTFIHDTKNNTKAIKGGKSPYGRNLRISKSRFQVTTCTHKGSRPPPCRYRASKG 122
QY 83 TMTFCVTCENQAPVHF 98
Db 123 FRYIIIGCENGWVHF 138

RESULT 8
ANGI_CERAE
ID ANGI_CERAE STANDARD; PRT; 146 AA.
AC Q8WN66;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Angiogenin precursor (EC 3.1.27.-) (Ribonuclease 5) (RNase 5).
GN ANG OR RNASE5.
OS Cercopithecus aethiops (Green monkey) (Grivet).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC Cercopithecinae; Cercopithecus.
OX NCBI_TaxID=9534;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21918422; PubMed=11919285;
RA Zhang J., Rosenberg H.F.;
RT "Diversifying selection of the tumor-growth promoter angiogenin in
RT primate evolution.";
RL Mol. Biol. Evol. 19:438-445(2002).
CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds
CC to actin on the surface of endothelial cells; once bound,
CC angiogenin is endocytosed and translocated to the nucleus, thereby
CC promoting the endothelial invasiveness necessary for blood vessel
CC formation. Angiogenin induces vascularization of normal and
CC malignant tissues. Abolishes protein synthesis by specifically
CC hydrolyzing cellular tRNAs (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC
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CC
CC -----
CC EMBL; AF441664; AAL61646.1; -.
CC InterPro; IPR001427; RNaseA.
CC Pfam; PF00074; rnaaseA; 1.
CC PRINTS; PR00794; RIBONUCLEASE.
CC ProDom; PD000535; RNaseA; 1.
CC SMART; SM00092; RNase_Fc; 1.
CC PROSITE; PS00127; RNASE_PANCREATIC; 1.
CC Hydroxylase; Nuclease; Endonuclease; Angiogenesis;
CC Protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
CC SIGNAL 1 24
CC CHAIN 25 146 ANGIOENIN.
CC FT MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
CC SIMILARITY).
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FT ACT SITE 37 37 BY SIMILARITY.
FT ACT SITE 64 64 BY SIMILARITY.
FT ACT SITE 138 138 BY SIMILARITY.
FT DISULFID 50 105 BY SIMILARITY.
FT DISULFID 63 116 BY SIMILARITY.
FT DISULFID 81 131 BY SIMILARITY.
SQ SEQUENCE 146 AA; 16444 MW; 27860112B85B8DF9 CRC64;

Query Match 22.6%; Score 130.5; DB 1; Length 146;
Best Local Similarity 30.7%; Pred. No. 4.2e-07;
Matches 31; Conservative 17; Mismatches 30; Indels 23; Gaps 4;

QY 5 TFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYISRPPEVKAIC---KGIILASKNV-LTT 60
Db 53 TMRRLHRLTSP-----CKDINTFHGRNRHHKAIKCGDNGNPGYENLRISK 97
QY 61 SEFYLSDCNVTSS---RPCKYKLKKSNTFTFCVTCENQAPVH 97
Db 98 SPFQVTTNLCRGSPRPPCQYRATRGSRNIVVGCENGLPVH 138

RESULT 9
ANGI_BOVIN
ID ANGI_BOVIN STANDARD; PRT; 148 AA.
AC P10152; Q9GKP9;
DT 01-MAR-1989 (Rel. 10, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Angiogenin-1 precursor (EC 3.1.27.-).
GN ANG1 OR ANG.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89065101; PubMed=3197838;
RA Maes P., Damart D., Rommens C., Montreuil J., Spik G., Tartar A.;
RT "The complete amino acid sequence of bovine milk angiogenin.";
RL FEBS Lett. 241:41-45(1988).
RN [3]
RP SEQUENCE OF 24-148.
RX TISSUE=Milk;
CC MEDLINE=89065101; PubMed=3197838;
RA Maes P., Damart D., Rommens C., Montreuil J., Spik G., Tartar A.;
RT "The complete amino acid sequence of bovine milk angiogenin.";
RL FEBS Lett. 241:41-45(1988).
RN [3]
RP SEQUENCE OF 24-148.
RX TISSUE=Plasma;
CC MEDLINE=89375344; PubMed=2775757;
RA Bond M.D., Strydom D.J.;
RT "Amino acid sequence of bovine angiogenin.";
RL Biochemistry 28:6110-6113(1989).
RN [4]
RP CHARACTERIZATION, AND SEQUENCE OF 25-55.
RX TISSUE=Plasma;
CC MEDLINE=89118214; PubMed=3064806;
RA Bond M.D., Vallee B.L.;
RT "Isolation of bovine angiogenin using a placental ribonuclease
RT inhibitor binding assay.";
RL Biochemistry 27:6282-6287(1988).
RN [5]
RP X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS).
RX MEDLINE=95224057; PubMed=7708754;
RA Acharya K.R., Shapiro R., Riordan J.F., Vallee B.L.;
RT "Crystal structure of bovine angiogenin at 1.5-A resolution.";
RL Proc. Natl. Acad. Sci. U.S.A. 92:2949-2953(1995).
RN [6]
RP STRUCTURE BY NMR.
RX MEDLINE=96280645; PubMed=8688423;
RA Lequin O., Albarret C., Bontems F., Spik G., Lallemand J.-Y.;
```

RT "Solution structure of bovine angiogenin by 1H nuclear magnetic
 RL resonance spectroscopy.";
 CC Biochemistry 35:8870-8880(1996).
 CC -1- FUNCTION: May function as a tRNA-specific ribonuclease that binds
 CC to actin on the surface of endothelial cells; once bound,
 CC angiogenin is endocytosed and translocated to the nucleus, thereby
 CC promoting the endothelial invasiveness necessary for blood vessel
 CC formation. Angiogenin induces vascularization of normal and
 CC malignant tissues. Abolishes protein synthesis by specifically
 CC hydrolyzing cellular tRNAs. Binds tightly to placental
 CC ribonuclease inhibitor and has very low ribonuclease activity.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Serum and milk.
 CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 CC -----
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 CC -----
 DR EMBL; AF135124; AAC47631.1; -.
 DR PDB; 1AGI; 03-APR-96.
 DR PDB; 1GIO; 07-DEC-96.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR PRINTS; PR00794; RIBONUCLEASE.
 DR PRODOM; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNase_Pc; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 DR Hydrolyase; Nuclease; Endonuclease; Angiogenesis;
 KW Protein synthesis inhibitor; Signal; 3D-structure.
 FT SIGNAL 1 23 ANGIOGENIN-1.
 FT CHAIN 24 148
 FT ACT_SITE 37 37
 FT ACT_SITE 64 64
 FT ACT_SITE 138 138
 FT DISULFID 50 105
 FT DISULFID 63 116
 FT DISULFID 81 131
 SQ SEQUENCE 148 AA; 16969 MW; B7999124CB523DD CRC64;
 Query Match 22.1%; Score 128; DB 1; Length 148;
 Best Local Similarity 34.0%; Pred. No. 7.8e-07;
 Matches 33; Conservative 14; Mismatches 32; Indels 18; Gaps 5;
 QY 16 DVDNNIMSTNLF--HCKDKNTFIYSRPEPVKAICKGIASKN-----VLTSEFYL 65
 Db DEYCFNMKNRRLTRPKDNTFIHGKNDIKAICE---DRNGQPYRGDLRISKSEFQI 102
 QY 66 SDC---NVTSR-PCYKLLKSTNTFCVTCENQAPVHF 98
 Db 103 TICKHKGSSRRPCKRGATEDSRVIVGCEGLPVHF 139
 RESULT 10
 RNP_MYOCO
 ID RNP_MYOCO STANDARD; PRT; 128 AA.
 AC P00676;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 21-JUL-1986 (Rel. 01, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
 GN RNASE1 OR RNS1.
 OS Myocastor coypus (Coypu) (Nutria).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriognathi; Myocastoridae;
 CC Myocastor.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Pancreas.
 CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 RN [1]
 RP SEQUENCE.

RC TISSUE=Pancreas;
 RX MEDLINE=7705676; PubMed=999896;
 RA van den Berg A., van den Hende-Timmer L., Beintema J.J.;
 RT "Isolation, properties and primary structure of coypu and chinchilla
 RL pancreatic ribonuclease.";
 CC -1- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
 CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
 CC with 2',3'-cyclic phosphate intermediates.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Pancreas.
 CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 DR PIR; A00822; NRCU.
 DR HSSP; P00656; 1SRN.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR PRINTS; PR00794; RIBONUCLEASE.
 DR PRODOM; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNase_Pc; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 KW Hydrolyase; Nuclease; Endonuclease; Glycoprotein.
 FT DISULFID 26 84
 FT DISULFID 40 95
 FT DISULFID 58 110
 FT DISULFID 65 72
 FT ACT_SITE 12 12
 FT ACT_SITE 41 41
 FT ACT_SITE 119 119
 FT CARBOHYD 34 34
 SQ SEQUENCE 128 AA; 14267 MW; 4EB924B52B445832 CRC64;
 Query Match 21.8%; Score 126; DB 1; Length 128;
 Best Local Similarity 29.9%; Pred. No. 1.1e-06;
 Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;
 QY 6 FQKKHL-----TNRDVEDNNIM-STNLF--HCKDKNTFIYSRPEPVKAICKGIASKN 57
 Db FERQHMDSRGSPSTNENYCNEMKSRNTQGRCKPNTFWHEPLADYQAVC-----PQKNV 63
 QY 58 L-----TTSEFYLSDCNVTSRP-----CKYKLLKSTNTFCVTCENQ--APVHF 98
 Db LCKNGQTCYQGSNSNMHITDCRVTSNSDYPNCSYRTSQEKSIVVACEGPPYVPVHF 120
 RESULT 11
 RNP_BALAC
 ID RNP_BALAC STANDARD; PRT; 124 AA.
 AC P00673;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 21-JUL-1986 (Rel. 01, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
 GN RNASE1 OR RNS1.
 OS Balaenoptera acutorostrata (Minke whale) (Lesser rorqual).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Cetacea; Mysticeti;
 CC Balaenopteridae; Balaenoptera.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Pancreas.
 CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 DR PIR; A00818; NRWHK.
 DR HSSP; P00656; 1SRN.
 RX MEDLINE=76277855; PubMed=962870;
 RA Emmens M., Welling G.W., Beintema J.J.;
 RT "The amino acid sequence of pike-whale (lesser-rorqual) pancreatic
 RL ribonuclease.";
 CC Biochem. J. 157:317-323 (1976).
 CC -1- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
 CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
 CC with 2',3'-cyclic phosphate intermediates.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Pancreas.
 CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 RN [1]
 RP SEQUENCE.

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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:38:36 ; Search time 9.43686 Seconds
(without alignments)
1060.090 Million cell updates/sec

Title: US-09-961-400-2
Perfect score: 578
Sequence: 1 QDWLTFQKKHLNTRDVCN.....TFVTCENQAPVHFVGVC 104

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues
Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR 78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	553	95.7	104	2 A39035	ribonuclease-relat
2	289	50.0	111	2 A27121	ribonuclease-relat
3	285.5	49.4	111	1 JX0120	ribonuclease-relat
4	269.5	46.6	111	2 JX0085	pancreatic ribonuc
5	149	25.8	119	2 S41111	pancreatic ribonuc
6	131	22.7	124	1 NRUI	pancreatic ribonuc
7	128	22.1	125	1 A32474	angiogenin (valida
8	126	21.8	128	1 NRCU	pancreatic ribonuc
9	125	21.6	124	1 NRWHK	pancreatic ribonuc
10	120	20.8	128	1 NRKS	pancreatic ribonuc
11	119.5	20.7	145	1 A35932	angiogenin precurs
12	119	20.6	128	1 NRGPB	pancreatic ribonuc
13	117	20.2	124	1 NRCB	pancreatic ribonuc
14	116	20.1	125	1 B43825	angiogenin - rabbi
15	116	20.1	128	1 NRYV	pancreatic ribonuc
16	114	19.7	124	1 NRHP	pancreatic ribonuc
17	113	19.6	147	1 NRHUG	angiogenin precurs
18	112	19.4	124	1 NRBOB	pancreatic ribonuc
19	112	19.4	124	1 NRPG	pancreatic ribonuc
20	112	19.4	150	1 NRBO	pancreatic ribonuc
21	111.5	19.3	147	2 I52489	ribonuclease 4 (EC
22	111	19.2	124	2 S08549	ribonuclease - dom
23	111	19.2	128	1 NRHO	pancreatic ribonuc
24	111	19.2	128	1 NRQP	pancreatic ribonuc
25	111	19.2	167	2 S20066	pancreatic-type ri
26	110.5	19.1	123	1 A43825	angiogenin - pig
27	110.5	19.1	155	2 JC6159	eosinophil-associa
28	109	18.9	124	1 NRSH	pancreatic ribonuc
29	109	18.9	124	1 NRPRH	pancreatic ribonuc

30	109	18.9	124	1 NRQPA	pancreatic ribonuc
31	109	18.9	124	2 S07141	pancreatic ribonuc
32	108	18.7	124	1 NRWB	pancreatic ribonuc
33	108	18.7	124	1 NRGN	pancreatic ribonuc
34	107	18.5	124	1 NRGF	pancreatic ribonuc
35	106	18.3	156	2 JC6160	eosinophil-associa
36	105	18.2	124	1 NRDEO	pancreatic ribonuc
37	105	18.2	124	1 NRCM	pancreatic ribonuc
38	105	18.2	124	1 NRCMM	pancreatic ribonuc
39	105	18.2	124	1 NRCMB	pancreatic ribonuc
40	105	18.2	128	1 NRCW2	pancreatic ribonuc
41	104	18.0	124	1 NRHY	pancreatic ribonuc
42	103	17.8	124	1 NRDER	pancreatic ribonuc
43	103	17.8	124	1 NRDEN	pancreatic ribonuc
44	103	17.8	124	1 NREKN	pancreatic ribonuc
45	102	17.6	124	1 NRDEF	pancreatic ribonuc

ALIGNMENTS

RESULT 1

A39035
ribonuclease-related anti-tumor protein - northern leopard frog (fragment)
C;Species: Rana pipiens (northern leopard frog)
C;Date: 31-Jul-1991 #sequence_revision 31-Jul-1991 #text_change 30-Jun-1993
C;Accession: A39035
R;Ardelt, W.; Mikulski, S.M.; Shogen, K.
J. Biol. Chem. 266, 245-251, 1991
A;Title: Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and earl
A;Reference number: A39035; PMID:91093131; PMID:1985896
A;Accession: A39035
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-104 <ARD>
C;Superfamily: pancreatic ribonuclease

Query Match 95.7%; Score 553; DB 2; Length 104;
Best Local Similarity 95.2%; Pred. No. 1.1e-48;
Matches 99; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY	1	QDWLTFQKKHLNTRDVCNIMSTNLFHCKDKNTFIYSRPEPKVKAICGIIASKNVLTT	60
DB	1	EDWLTFQKKHLNTRDVCNIMSTNLFHCKDKNTFIYSRPEPKVKAICGIIASKNVLTT	60
QY	61	SEFYLSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104	
DB	61	SEFYLSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104	

RESULT 2

A27121
ribonuclease-related sialic acid-binding lectin - bullfrog
C;Species: Rana catesbeiana (bullfrog)
C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 30-Jun-1993
C;Accession: A27121
R;Titani, K.; Takio, K.; Kuwada, M.; Nitta, K.; Sakakibara, F.; Kawachi, H.; Takayanagi
Biochemistry 26, 2189-2194, 1987
A;Title: Amino acid sequence of sialic acid-binding lectin from frog (Rana catesbeiana)
A;Reference number: A27121; PMID:87299649; PMID:3304421
A;Accession: A27121
A;Molecule type: protein
A;Residues: 1-111 <TIT>
C;Superfamily: pancreatic ribonuclease
C;Keywords: lectin

Query Match 50.0%; Score 289; DB 2; Length 111;
Best Local Similarity 48.6%; Pred. No. 4.2e-22;
Matches 54; Conservative 17; Mismatches 32; Indels 8; Gaps 3;
QY 1 QDWLTFQKKHLNTRDVCNIMSTNLF---HCKDKNTFIYSRPEPKVKAICGIIASKN 56
DB 1 ENWATFQQRHIINTPIINCNTIMDNNIYIVGGCKQKRVNTFIISATTVKAICTGVI-NMN 59

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C/Species: Iguana iguana (common iguana)
C/Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 21-Aug-1998
C/Accession: S41111
R/Zhao, W.; Beintema, J.J.; Hofsteenge, J.
Eur. J. Biochem. 219, 641-646, 1994
A>Title: The amino acid sequence of iguana (Iguana iguana) pancreatic ribonuclease.
A/Reference number: S41111; MUID:94139745; PMID:8307028
A/Accession: S41111
A>Status: preliminary
A/Molecule type: protein
A/Residues: 1-119 <ZHA>
C:Superfamily: pancreatic ribonuclease

Query Match          25.8%; Score 149; DB 2; Length 119;
Best Local Similarity 30.7%; Pred. No. 5.5e-08;
Matches 35; Conservative 19; Mismatches 44; Indels 16; Gaps 5;

QY 1 QDWLTQKKHL-----TNRDVCNNIM---STNLFHCKDKNTFYSRPEPVKAIC--K 49
Db 1 QDWSSFQKHIDYPETSAENPAYCDLMMQRENLPFTCKTNTFVHASPSEIQVCGSG 60

QY 50 GIATSKNVLTTSB-FVLSDC-----NVTGRPCYKULKKSNTFCVTCENQAPVHF 98
Db 61 GTHYEDNLYDSNEFSLTDCKNVGGTAPSSCKYNGTPTGKIRIACENNQPVHF 114

RESULT 6
NRUI
pancreatic ribonuclease (EC 3.1.1.27.5) - cuis
N/Alternate names: RNase 1; RNase A
C/Species: Galea musteloides (cuis)
C/Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 04-Oct-1996
C/Accession: A00827
R/Beintema, J.J.; Neuteboom, B.
J. Mol. Evol. 19, 145-152, 1983
A>Title: Origin of the duplicated ribonuclease gene in guinea-pig: comparison of the
A/Reference number: A92957; MUID:87036770; PMID:6571219
A/Accession: A00827
A/Molecule type: protein
A/Residues: 1-124 <BEI>
A/Note: about one-third of the molecules lacked Ala-1
C/Comment: The cuis is a rodent belonging to the same subfamily as the guinea pig.
C:Superfamily: pancreatic ribonuclease
C/Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F/12,41,119/Active site: His, Lys, His #status predicted
F/26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F/94/Binding site: carbohydrate (Asn) (covalent) #status absent

Query Match          22.7%; Score 131; DB 1; Length 124;
Best Local Similarity 30.6%; Pred. No. 3.7e-06;
Matches 37; Conservative 18; Mismatches 34; Indels 32; Gaps 7;

QY 4 LTFQKKHL-----TNRDVCNNIM---STNLFHCKDKNTFYSRPEPVKAICKGIIA 53
Db 6 MKFQKHQMSDGHPTNTN--YCNEMVRRSMTQGRCKPNTFVHPELVQAVC----S 59

QY 54 SKNV-----LTTSEFYLSDCNVTSRP-----CKYKLKKSTNTFCVTCEN--QAPVH 97
Db 60 QKNVPCKNGQNTCYQSHSSMRITDCRVTSSSKYPNCYSYRMTQAQKSIIVACEGFPSPVH 119

QY 98 F 98
Db 120 F 120

RESULT 7
A32474
angiogenin [validated] - bovine
N/Alternate names: angiogenesis factor
N/Contains: ribonuclease (EC 3.1.27.-)
C/Species: Bos primigenius taurus (cattle)
C/Date: 25-Sep-1989 #sequence_revision 25-Sep-1989 #text_change 15-Sep-2000
C/Accession: A32474; S02001; A30044; S48212

```


A;Residues: 1-128 <VAN>
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12_41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 21.8%; Score 126; DB 1; Length 128;
Best Local Similarity 29.9%; Pred. No. 1.2e-05;
Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;

QY 6 FQKKHL-----TNTEDVDCNNIM-STNLF--HCXDKNTFIYSRPEPVKAIKGIASKNV 57
Db ||::||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:
8 FERQHMDSRGSPSTNYPCNMEMSKRNMTQGRCKPVTNFVHEPLADVOAVC---FQKNV 63
Db ||::||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:
QY 58 L-----TTSEFYLSDCNVTSRP----CKYKLKSTNTFCVTCENQ--APVHF 98
Db ||:|||||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:
64 LCKNGQINCYQSNSNMHITDCTVTSNDYPNCVRTSQEEKSIIVACEGNPYVPVHF 120
Db ||:|||||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:

RESULT 9
NRWK
pancreatic ribonuclease (EC 3.1.27.5) - minke whale
N;Alternate names: RNase A; RNase A
C;Species: Balaeoptera acutorostrata (minke whale, lesser rorqual)
C;Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 03-Jun-1994
C;Accession: A00818
R;Emmens, M.; Welling, G.W.; Beintema, J.J.
Biochem. J. 157, 317-323, 1976
A;Title: The amino acid sequence of pike whale (lesser rorqual) pancreatic ribonuclease
A;Reference number: A00818; MUID:76277855; PMID:962870
A;Accession: A00818
A:Molecule type: protein
A;Residues: 1-124 <ENV>
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12_41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;76/Binding site: carbohydrate (Asn) (covalent) (partial) #status experimental

Query Match 21.6%; Score 125; DB 1; Length 124;
Best Local Similarity 28.6%; Pred. No. 1.5e-05;
Matches 34; Conservative 15; Mismatches 42; Indels 28; Gaps 6;

QY 4 LTQFKHLTNTRVD-----CNNIMSTNLF--HCXDKNTFIYSRPEPVKAIKGIASK 55
Db ||::||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:
6 MKFQRQHMDSGNSPGNNPNYCQMWRMKMTQGRCKPVTNFVHESLEDVKAVC---SQK 61
QY 56 NVL-----TTSEFYLSDCNVTSRP----CKYKLKSTNTFCVTCENQ--APVHF 98
Db ||:|||||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:
62 NVLCCKGNRTNCYESNTMHTIDCRQTGSSKYPCAYTKSQEKHIIVACEGNPYVPVHF 120
Db ||:|||||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||:

RESULT 10
NRKS
pancreatic ribonuclease (EC 3.1.27.5) - casiragua
C;Species: Proechimys guairae (casiragua)
C;Date: 17-Mar-1987 #sequence_revision 17-Mar-1987 #text_change 30-Sep-1993
C;Accession: A00821
R;Beintema, J.J.; Knol, G.; Martena, B.
Biochim. Biophys. Acta 705, 102-110, 1982
A;Title: The primary structures of pancreatic ribonucleases from African porcupine and
A;Reference number: A90644; MUID:83000399; PMID:7115727
A;Accession: A00821
A:Molecule type: protein
A;Residues: 1-128 <BEI>
A;Note: residues 67-78 were positioned primarily by homology with other ribonucleases
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12_41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 20.8%; Score 120; DB 1; Length 128;
Best Local Similarity 29.9%; Pred. No. 5e-05;
Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;

QY 6 FOKKHL-----TNTRDVDCNNIM--STNLF--HCKDKNTFYSPRPVKAICKGIASKNV 57
DB 8 FQKHIDSSGSPSTNYCNAMKSRNMTQERCKPNTFVHEPLADVQAVC-----FQKNV 63

QY 58 -----LTTSEFYLSDCNVTSR-----PCYKLUKSTNTFCVTCENQ--APVHF 98
DB 64 PCKNGQSCVSTSNMHTDCLRTSNKSPDCILRTSQBEKSIIVACEGPNYPVVFH 120

RESULT 11
A35932
angiogenin precursor - mouse
N/Alternate names: angiogenesis factor
N/Contains: ribonuclease (EC 3.1.27.-)
C/Species: Mus musculus (house mouse)
C/Date: 09-Nov-1990 #sequence_revision 09-Nov-1990 #text_change 18-Jun-1999
C/Accession: A35932
R/Bond, M.D.; Vallee, B.L.
Biochim. Biophys. Res. Commun. 171, 988-995, 1990
A/Title: Isolation and sequencing of mouse angiogenin DNA.
A/Reference number: A35932; MUID: 91025023; PMID: 2222458
A/Accession: A35932
A/Status: not compared with conceptual translation
A/Molecule type: DNA
A/Residues: 1-145 <BON>
A/Cross-references: GB:U22516; NID: g726325; PID: AAA91366.1; PID: g726326
C/Genetics: #status absent
A/Introns: #status absent
C/Function:
A/Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
C/Superfamily: pancreatic ribonuclease
C/Keywords: angiogenesis; hydrolase; nucleic acid degradation; pyroglutamic acid
F:1-24/Domain: signal sequence #status predicted <SIG>
F:25-145/Product: angiogenin #status predicted <MAT>
F:25/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted
F:37,64,137/Active site: His, Lys, His #status predicted
F:50-104,63-115,81-130/Disulfide bonds: #status predicted

Query Match 20.7%; Score 119.5; DB 1; Length 145;
Best Local Similarity 30.8%; Pred. No. 6.3e-05;
Matches 33; Conservative 12; Mismatches 45; Indels 17; Gaps 5;

QY 9 KHLTNTRDVD-----CNNIMSTNLF--HCKDKNTFYSPRPVKAIC--KGIIASKN 56
DB 32 KFLTQHHDAPKGRDDRYCERMKRRSLTSPCKDVNTFIHGKSNKAIKCAANGSPYREN 91

QY 57 V-LTTSEFYLSDCNVT-----RPCKYLUKSTNTFCVTCENQAPVHF 98
DB 92 LRMSKSPQVTTCKTHGTGSPRPCCQYRASAGFRHWIACENGLPVHF 138

RESULT 12
NRCEB
pancreatic ribonuclease (EC 3.1.27.5) B - guinea pig (tentative sequence)
N/Alternate names: RNase B
C/Species: Cavia porcellus (guinea pig)
C/Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 31-Mar-2000
C/Accession: A00826
R/van den Berg, A.; van den Hende-Timmer, L.; Hofsteenge, J.; Gastra, W.; Beintema, J.J.
Eur. J. Biochem. 75, 91-100, 1977
A/Title: Guinea pig pancreatic ribonucleases. Isolation, properties, primary structure
A/Reference number: A91247; MUID: 77185023; PMID: 862624
A/Accession: A00826
A/Molecule type: protein
A/Residues: 1-128 <VAN>
A/Note: 64-Pro was also found
C/Superfamily: pancreatic ribonuclease
C/Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F:12,41,119/Active site: His, Lys, His #status predicted

F:21,34/Binding site: carbohydrate (Asn) (covalent) #status experimental
F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted

Query Match 20.6%; Score 119; DB 1; Length 128;
Best Local Similarity 28.3%; Pred. No. 6.2e-05;
Matches 34; Conservative 21; Mismatches 35; Indels 30; Gaps 7;

QY 4 LTFQKKHL-----TNTRDVDCNNIM--STNLFHCKDKNTFYSPRPVKAICKGIAS 54
DB 6 MKFQROHMDPEGSPSSNY--CNVMIRRMNTQGRCKPNTFVHESLADVQAVC-----FQ 60

QY 55 KNYL-----LTTSEFYLSDCNVTSRP-----CKYLUKSTNTFCVTCENQ--APVHF 98
DB 61 KNYLCKNGQTCVQSYSRMRITDCRVTSKSPKPNCRMSQAQKSIIVACEGPNYPVVFH 120

RESULT 13
NRCEB
pancreatic ribonuclease (EC 3.1.27.5) - Chinchilla brevicaudata (tentative sequence)
N/Alternate names: RNase 1; RNase A
C/Species: Chinchilla brevicaudata, Chinchilla lanigera brevicaudata
C/Date: 24-Apr-1984 #sequence_revision 30-Sep-1988 #text_change 31-Mar-2000
C/Accession: A00820
R/van den Berg, A.; van den Hende-Timmer, L.; Beintema, J.J.
Biochim. Biophys. Acta 453, 400-409, 1976
A/Title: Isolation, properties and primary structure of coypu and chinchilla pancreatic
A/Reference number: A90612; MUID: 77065676; PMID: 999896
A/Accession: A00820
A/Molecule type: protein
A/Residues: 1-124 <VAN>
A/Note: a second component of chinchilla ribonuclease has 32-Asp
C/Superfamily: pancreatic ribonuclease
C/Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F:12,41,119/Active site: His, Lys, His #status predicted
F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F:34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 20.2%; Score 117; DB 1; Length 124;
Best Local Similarity 26.9%; Pred. No. 9.6e-05;
Matches 32; Conservative 19; Mismatches 40; Indels 28; Gaps 6;

QY 4 LTFQKKHL-----TNTRDVDCNNIM--STNLFHCKDKNTFYSPRPVKAICKGIASK 55
DB 6 MKFQROHMDSSGSPSTNANYCNEMKGRNMTQGYCKPNTFVHEPLADVQAVC----FQK 61

QY 56 NV-----LTTSEFYLSDCNVTSRP-----CKYLUKSTNTFCVTCENQ--APVHF 98
DB 62 NVPCKNGQSCVQSNMHTDCLRTSNKSPKPNCRMSQAQKSIIVACEGPNYPVVFH 120

RESULT 14
B43825
angiogenin - rabbit
C/Species: Oryctolagus cuniculus (domestic rabbit)
C/Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C/Accession: S29833; B43825
R/Bond, M.D.; Strydom, D.J.; Vallee, B.L.
Biochim. Biophys. Acta 1162, 177-186, 1993
A/Title: Characterization and sequencing of rabbit, pig and mouse angiogenins: discern
A/Reference number: S29833; MUID: 93192291; PMID: 8448182
A/Accession: S29833
A/Status: preliminary
A/Molecule type: protein
A/Residues: 1-125 <BON>
A/Note: submitted to the Protein Sequence Database, December 1992
C/Superfamily: pancreatic ribonuclease
C/Keywords: pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match 20.1%; Score 116; DB 1; Length 125;
Best Local Similarity 31.2%; Pred. No. 0.00012;
Matches 24; Conservative 13; Mismatches 32; Indels 8; Gaps 3;

F:21,34/Binding site: carbohydrate (Asn) (covalent) #status experimental
F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted

Query Match 20.6%; Score 119; DB 1; Length 128;
Best Local Similarity 28.3%; Pred. No. 6.2e-05;
Matches 34; Conservative 21; Mismatches 35; Indels 30; Gaps 7;

QY 4 LTFQKKHL-----TNTRDVDCNNIM--STNLFHCKDKNTFYSPRPVKAICKGIAS 54
DB 6 MKFQROHMDPEGSPSSNY--CNVMIRRMNTQGRCKPNTFVHESLADVQAVC-----FQ 60

QY 55 KNYL-----LTTSEFYLSDCNVTSRP-----CKYLUKSTNTFCVTCENQ--APVHF 98
DB 61 KNYLCKNGQTCVQSYSRMRITDCRVTSKSPKPNCRMSQAQKSIIVACEGPNYPVVFH 120

RESULT 13
NRCEB
pancreatic ribonuclease (EC 3.1.27.5) - Chinchilla brevicaudata (tentative sequence)
N/Alternate names: RNase 1; RNase A
C/Species: Chinchilla brevicaudata, Chinchilla lanigera brevicaudata
C/Date: 24-Apr-1984 #sequence_revision 30-Sep-1988 #text_change 31-Mar-2000
C/Accession: A00820
R/van den Berg, A.; van den Hende-Timmer, L.; Beintema, J.J.
Biochim. Biophys. Acta 453, 400-409, 1976
A/Title: Isolation, properties and primary structure of coypu and chinchilla pancreatic
A/Reference number: A90612; MUID: 77065676; PMID: 999896
A/Accession: A00820
A/Molecule type: protein
A/Residues: 1-124 <VAN>
A/Note: a second component of chinchilla ribonuclease has 32-Asp
C/Superfamily: pancreatic ribonuclease
C/Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F:12,41,119/Active site: His, Lys, His #status predicted
F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F:34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 20.2%; Score 117; DB 1; Length 124;
Best Local Similarity 26.9%; Pred. No. 9.6e-05;
Matches 32; Conservative 19; Mismatches 40; Indels 28; Gaps 6;

QY 4 LTFQKKHL-----TNTRDVDCNNIM--STNLFHCKDKNTFYSPRPVKAICKGIASK 55
DB 6 MKFQROHMDSSGSPSTNANYCNEMKGRNMTQGYCKPNTFVHEPLADVQAVC----FQK 61

QY 56 NV-----LTTSEFYLSDCNVTSRP-----CKYLUKSTNTFCVTCENQ--APVHF 98
DB 62 NVPCKNGQSCVQSNMHTDCLRTSNKSPKPNCRMSQAQKSIIVACEGPNYPVVFH 120

RESULT 14
B43825
angiogenin - rabbit
C/Species: Oryctolagus cuniculus (domestic rabbit)
C/Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C/Accession: S29833; B43825
R/Bond, M.D.; Strydom, D.J.; Vallee, B.L.
Biochim. Biophys. Acta 1162, 177-186, 1993
A/Title: Characterization and sequencing of rabbit, pig and mouse angiogenins: discern
A/Reference number: S29833; MUID: 93192291; PMID: 8448182
A/Accession: S29833
A/Status: preliminary
A/Molecule type: protein
A/Residues: 1-125 <BON>
A/Note: submitted to the Protein Sequence Database, December 1992
C/Superfamily: pancreatic ribonuclease
C/Keywords: pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match 20.1%; Score 116; DB 1; Length 125;
Best Local Similarity 31.2%; Pred. No. 0.00012;
Matches 24; Conservative 13; Mismatches 32; Indels 8; Gaps 3;

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:25:55 ; Search time 44.363 Seconds
(without alignments)
662.376 Million cell updates/sec

Title: US-09-961-400-4

Perfect score: 579

Sequence: 1 QDLTFQKHLNTRDVCN.....TFCVTCENQAPVHFVGVGHC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database : A Geneseq 29Jan04:*

- 1: geneseqp1980s:*
- 2: geneseqp1990s:*
- 3: geneseqp2000s:*
- 4: geneseqp2001s:*
- 5: geneseqp2002s:*
- 6: geneseqp2003as:*
- 7: geneseqp2003bs:*
- 8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB	ID	Description
1	571	98.6	104	2	AAV28866	Aay28866 Recombina
2	571	98.6	105	2	AAV28869	Aay28869 Recombina
3	569	98.3	104	2	AAV28865	Aay28865 Rana pipi
4	569	98.3	105	2	AAV28867	Aay28867 Recombina
5	569	98.3	127	2	AAV28879	Aay28879 Rana pipi
6	564	97.4	104	2	AAV28870	Aay28870 Recombina
7	564	97.4	105	2	AAV28871	Aay28871 Recombina
8	549	94.8	104	2	AAW06544	Aaw06544 Antitumou
9	547	94.5	104	2	AAW30301	Aaw30301 Recombina
10	547	94.5	104	4	AAW31666	Aab31666 Amino aci
11	547	94.5	104	5	ABG32650	Abg32650 Northern
12	547	94.5	379	2	AAW35126	Aaw35126 R. pipien
13	546	94.3	104	2	AAW30302	Aaw30302 Recombina
14	544	94.0	104	2	AAV28871	Aay28871 Recombina
15	544	94.0	104	2	AAW47303	Aar47303 ONCONASE
16	544	94.0	104	2	AAW00736	Aaw00736 Protein d
17	544	94.0	104	2	AAW14065	Aaw14065 Onconase
18	544	94.0	104	2	AAW06543	Aaw06543 Antitumou
19	544	94.0	104	2	AAW88233	Aaw88233 Rana pipi
20	544	94.0	104	2	AAV33322	Aay33322 Frog onco
21	544	94.0	104	4	AAW31667	Aab31667 Amino aci
22	544	94.0	104	5	ABG31617	Abg31617 Northern
23	544	94.0	105	2	AAV35123	Aav35123 R. pipien
24	544	94.0	105	2	AAV39400	Aay39400 Recombina
25	544	94.0	355	2	AAW35125	Aaw35125 R. pipien

26	544	94.0	358	2	AAW35130	Aaw35130 R. pipien
27	542	93.6	106	2	AAW35122	Aaw35122 R. pipien
28	542	93.6	107	2	AAW35117	Aaw35117 R. pipien
29	542	93.6	112	2	AAW35118	Aaw35118 R. pipien
30	542	93.6	251	2	AAW35134	Aaw35134 R. pipien
31	542	93.6	254	2	AAW35135	Aaw35135 R. pipien
32	542	93.6	355	2	AAW35133	Aaw35133 R. pipien
33	542	93.6	355	2	AAW35129	Aaw35129 R. pipien
34	542	93.6	366	2	AAW35132	Aaw35132 R. pipien
35	539	93.1	104	2	AAW18224	Aaw18224 Antitumou
36	537	92.7	105	2	AAW35115	Aaw35115 R. pipien
37	537	92.7	105	2	AAW35116	Aaw35116 R. pipien
38	533	92.1	358	2	AAW35127	Aaw35127 R. pipien
39	533	92.1	365	2	AAW35131	Aaw35131 R. pipien
40	518	89.5	107	2	AAW35120	Aaw35120 R. pipien
41	481	83.1	360	2	AAW35128	Aaw35128 R. pipien
42	474.5	82.0	111	2	AAW35121	Aaw35121 R. pipien
43	436	75.3	83	2	AAW35119	Aaw35119 R. pipien
44	436	75.3	83	2	AAW88234	Aaw88234 Rana pipi
45	283	48.9	111	2	AAV33321	Aay33321 Frog lect

ALIGNMENTS

RESULT 1
AAV28866
ID AAY28866 standard; protein; 104 AA.
XX AC AAY28866;
XX DT 25-JAN-2000 (first entry)
XX DE Recombinant RapLRI Met23Leu amino acid sequence.
XX KW Recombinant Rana pipiens ribonuclease; RapLRI Met23Leu; covalently bound; LL2 antibody; ligand binding moiety; CD22; cancerous B cell; RNase;
KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
XX autoimmune disease.
XX OS Rana pipiens.
OS Synthetic.
XX FH Key Location/Qualifiers
FT Misc-difference 23 /note= "Wild type Met replaced with Leu"
FT XX
XX PN WO9950398-A2.
XX PD 07-OCT-1999.
XX PF 26-MAR-1999; 99WO-US0006641.
XX PR 27-MAR-1998; 98US-0079751P.
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL;
XX DR WPI; 1999-610847/52.
XX N-PSDB; AAZ08125.
XX PT New recombinant ribonucleases, used for killing target cells, e.g. for treating cancers, viral infections or autoimmune diseases.
XX PS Claim 34; Page 56; 71pp; English.
XX CC The present sequence is a recombinant Rana pipiens ribonuclease (RapLRI) protein with Met23Leu. Carboxy terminal end of recombinant RapLRI has a covalently bound ligand binding moiety, which can be a LL2 antibody directed against CD22 on cancerous B cells or human chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant

CC ribonucleases can be expressed in bacteria without an N-terminal methionine due to the presence of a signal peptide that is cleaved by bacteria. The soluble expression of ribonuclease allows the proteins to be fused in-frame with ligand binding moieties to form cytotoxic fusion proteins. They can be used for treatment of cancer and autoimmune diseases.

XX Sequence 104 AA;

SQ

Query Match 98.6%; Score 571; DB 2; Length 104;
Best Local Similarity 99.0%; Pred. No. 5.8e-62;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGITASKNVLT 60
DB 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGITASKNVLT 60

QY 61 FEFYLSDCNVTSPCKYKLLKSTNTFCVCENQAPVHFVGVGHC 104
DB 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVCENQAPVHFVGVGHC 104

RESULT 2
AAY28869
ID AAY28869 standard; protein; 105 AA.
XX
AC AAY28869;
XX
DT 25-JAN-2000 (first entry)
XX
DE Recombinant Met(-1) RapLr1 Met23Leu- (His) 6 protein.
XX
KW Recombinant Met(-1) Rana pipiens ribonuclease Met23Leu- (His) 6; RapLr1; CD22; covalently bound; LL2 antibody; ligand binding moiety; RNase;
KW cancerous B cell; Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide; recombinant ribonuclease; cytotoxic fusion protein; cancer; frog; autoimmune disease.
XX
OS Rana pipiens.
OS Synthetic.

XX
FH Key Location/Qualifiers
FT Misc-difference 1 /note= "Met not found in wild type RapLr1"
FT
FT Misc-difference 1 /note= "(His)6 histidine tag attached to N-terminal Met"
FT
FT Misc-difference 24 /note= "Wild type Met replaced with Leu"
FT
FT
XX
XX WO9950398-A2.
XX
XX 07-OCT-1999.
XX
XX 26-MAR-1999; 99WO-US0006641.
XX
XX 27-MAR-1998; 98US-0079751P.
XX
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
XX Rybak SM, Newton DL;
XX
XX WPI; 1999-610847/52.
XX
XX N-PSDB; AAZ08127.
XX
XX New recombinant ribonucleases, used for killing target cells, e.g. for treating cancers, viral infections or autoimmune diseases.
XX
XX Claim 4; Page 59; 71pp; English.
XX
XX The present sequence is a recombinant Rana pipiens ribonuclease protein (RapLr1) with Met at position 1 attached to (His)6 tag and Met24Leu. Carboxy terminal end of recombinant RapLr1 has a covalently bound ligand binding moiety, which can be a LL2 antibody directed against CD22 on

CC cancerous B cells or human chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant ribonucleases can be expressed in bacteria without an N-terminal methionine due to the presence of a signal peptide that is cleaved by bacteria. The soluble expression of ribonuclease allows the proteins to be fused in-frame with ligand binding moieties to form cytotoxic fusion proteins. They can be used for treatment of cancer and autoimmune diseases.

XX Sequence 105 AA;

SQ

Query Match 98.6%; Score 571; DB 2; Length 105;
Best Local Similarity 99.0%; Pred. No. 5.9e-62;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGITASKNVLT 60
DB 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGITASKNVLT 61

QY 61 FEFYLSDCNVTSPCKYKLLKSTNTFCVCENQAPVHFVGVGHC 104
DB 62 SEFYLSDCNVTSPCKYKLLKSTNTFCVCENQAPVHFVGVGHC 105

RESULT 3
AAY28865
ID AAY28865 standard; protein; 104 AA.
XX
AC AAY28865;
XX
DT 25-JAN-2000 (first entry)
XX
DE Rana pipiens liver ribonuclease (RapLr1).
XX
KW Rana pipiens liver ribonuclease; RapLr1; covalently bound; LL2 antibody; ligand binding moiety; CD22; cancerous B cell; Kaposi's sarcoma; frog; human chorionic gonadotropin; hCG; recombinant ribonuclease; RNase; signal peptide; cytotoxic fusion protein; cancer; autoimmune disease.
XX
OS Rana pipiens.
XX
XX WO9950398-A2.
XX
XX 07-OCT-1999.
XX
XX 26-MAR-1999; 99WO-US0006641.
XX
XX 27-MAR-1998; 98US-0079751P.
XX
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
XX Rybak SM, Newton DL;
XX
XX WPI; 1999-610847/52.
XX
XX N-PSDB; AAZ08124.
XX
XX New recombinant ribonucleases, used for killing target cells, e.g. for treating cancers, viral infections or autoimmune diseases.
XX
XX Claim 1; Page 55; 71pp; English.
XX
XX The present sequence is Rana pipiens liver ribonuclease (RapLr1) protein. Carboxy terminal end of RapLr1 has a covalently bound ligand binding moiety, which can be a LL2 antibody directed against CD22 on cancerous B cells or human chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant ribonucleases can be expressed in bacteria without an N-terminal methionine due to the presence of a signal peptide that is cleaved by bacteria. The soluble expression of ribonuclease allows the proteins to be fused in-frame with ligand binding moieties to form cytotoxic fusion proteins. They can be used for treatment of cancer and autoimmune diseases.

XX Sequence 104 AA;

SQ

Query Match 98.3%; Score 569; DB 2; Length 104;
 Best Local Similarity 98.1%; Pred. No. 1e-61;
 Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 Db 1 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 QY 61 FEFYLSDCNVTSRPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SEFYLSDCNVTSRPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104

RESULT 4

AAV28867
 ID AAV28867 standard; protein; 105 AA.

XX AC AAV28867;

XX DT 25-JAN-2000 (first entry)

XX DE Recombinant Met (-1) RaPLR1.

XX KW Recombinant Met (-1) Rana pipiens ribonuclease; RaPLR1; CD22; RNase;
 KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease.

XX OS Rana pipiens.

XX OS Synthetic.

XX FH Key Location/Qualifiers

FT Misc-difference 1 /note= "Met not found in wild type RaPLR1"

XX FN WO9950398-A2.

XX PD 07-OCT-1999.

XX PF 26-MAR-1999; 99WO-US006641.

XX PR 27-MAR-1998; 98US-0079751P.

XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX PI Rybak SM, Newton DL;

XX DR WPI; 1999-610847/52.

XX DR N-PSDB; AAZ08126.

XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
 treating cancers, viral infections or autoimmune diseases.

XX PS Claim 34; Page 57; 71pp; English.

XX CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1. Carboxy terminal end of recombinant
 CC RaPLR1 has a covalently bound ligand binding moiety, which can be a LL2
 CC antibody directed against CD22 on cancerous B cells or human chorionic
 CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

XX SQ Sequence 105 AA;

Query Match 98.3%; Score 569; DB 2; Length 105;
 Best Local Similarity 98.1%; Pred. No. 1e-61;
 Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 Db 2 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
 QY 61 FEFYLSDCNVTSRPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
 Db 62 SEFYLSDCNVTSRPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 105

RESULT 5

AAV28879

ID AAV28879 standard; protein; 127 AA.

XX AC AAV28879;

XX DT 25-JAN-2000 (first entry)

XX DE Rana pipiens Clone 5alb ribonuclease.

XX KW Rana pipiens ribonuclease Clone 5alb; RaPLR1; covalently bound; RNase;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; onconase;
 KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; cancer;
 KW recombinant ribonuclease; frog; signal peptide; cytotoxic fusion protein;
 KW autoimmune disease.

XX OS Rana pipiens.

XX FH Key Location/Qualifiers

FT Peptide 1..23

FT /label= Signal peptide

FT /note= "putative"

FT Protein 24..127

FT /label= Rana_pipiens_Clone_5alb_ribonuclease

XX PN WO9950398-A2.

XX PD 07-OCT-1999.

XX PF 26-MAR-1999; 99WO-US006641.

XX PR 27-MAR-1998; 98US-0079751P.

XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX PI Rybak SM, Newton DL;

XX DR WPI; 1999-610847/52.

XX DR N-PSDB; AAZ08136.

XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
 treating cancers, viral infections or autoimmune diseases.

XX PS Disclosure; Page 69; 71pp; English.

XX CC The present sequence is a Rana pipiens Clone 5alb ribonuclease (RaPLR1).
 CC It is encoded by Clone 5alb cDNA obtained from Rana pipiens liver mRNA
 CC library. It exhibits differences with Onconase (RTM) at amino acid
 CC residues 11, 20, 85 and 103. Carboxy terminal end of RaPLR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

XX SQ Sequence 127 AA;

Query Match 98.3%; Score 569; DB 2; Length 127;
 Best Local Similarity 98.1%; Pred. No. 1.3e-61;

Db 3 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 62
 QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 63 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 8
 AAW06544
 ID AAW06544 standard; protein; 104 AA.
 AC AAW06544;
 DT 22-AUG-1997 (first entry)
 DE Antitumour protein from Rana pipiens oocytes.
 KW Tumour; chemotherapy; radiotherapy; frog.
 OS Rana pipiens.
 PN WO9639428-A1.
 PD 12-DEC-1996.
 PF 03-JUN-1996; 96WO-US008304.
 PR 06-JUN-1995; 95US-00467955.
 PA (ALFA-) ALFACELL CORP.
 PI Ardelt WJ;
 DR WPI; 1997-043063/04.
 PT Antitumour proteins from Rana pipiens oocyte(s) - have fewer
 PT disadvantages than chemotherapy, surgery and radiotherapy.
 PS Claim 8; Page 28; 45pp; English.

The present sequence is a specifically claimed example of an antitumour protein from the generic protein in AAW18224, with the molecular weight 12000. This is one of two preferred proteins (the other in AAW06543) that have been isolated from Rana pipiens oocytes. Both proteins have a blocked amino terminal group and are essentially free of carbohydrates. The proteins are used to treat tumours. Use of the peptides has fewer disadvantages than chemotherapy, radiotherapy and surgery in the treatment of tumours

XX SQ Sequence 104 AA;
 Query Match 94.8%; Score 549; DB 2; Length 104;
 Best Local Similarity 94.2%; Pred. No. 2.9e-59;
 Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 Db 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 QY 61 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 9
 AAW30301
 ID AAW30301 standard; protein; 104 AA.
 AC AAW30301;
 DT 09-JUN-1998 (first entry)
 DE Recombinant onc protein.

XX Onc; oncanase; ribonuclease; frog; antitumour; pancreatic cancer;
 KW human immunodeficiency virus type-1; HIV1; replication.
 XX Rana pipiens.
 OS WO9738112-A1.
 PN 16-OCT-1997.
 PD 04-APR-1997; 97WO-US005675.
 PF 04-APR-1996; 96US-00626288.
 PR (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PA Youle RJ, Vasandani VM, Wu Y, Boix E, Ardelt W;
 PI WPI; 1997-512725/47.
 DR Recombinant Onc protein with glutamine residue at position 1 - useful as
 PT antitumour and antiviral agent, also as cell culture selection agent.
 PS Claim 1; Page 28; 35pp; English.
 XX This sequence represents a recombinant Onc protein comprising a 104 amino
 CC acid sequence having Gln at position 1. Onc, a ribonuclease from Rana
 CC pipiens oocytes, is known as an antitumour agent (e.g. for treating
 CC pancreatic cancer) and inhibitor of human immunodeficiency virus type-1
 CC replication. It can be used therapeutically or as a cell-culture
 CC selection agent, e.g. to identify gene therapy compositions able to
 CC inhibit tumour growth
 XX SQ Sequence 104 AA;
 Query Match 94.5%; Score 547; DB 2; Length 104;
 Best Local Similarity 94.2%; Pred. No. 5.2e-59;
 Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 Db 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 QY 61 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 10
 AAB31666
 ID AAB31666 standard; protein; 104 AA.
 AC AAB31666;
 DT 30-APR-2001 (first entry)
 DE Amino acid sequence of a frog ribonuclease protein.
 KW Frog; ribonuclease; rampirase; RNase.
 OS Rana pipiens.
 PN US6175003-B1.
 PD 16-JAN-2001.
 PF 10-SEP-1999; 99US-00394268.
 XX 10-SEP-1999; 99US-00394268.

XX Key Location/Qualifiers
 FT Modified-site 1
 FT /note= "this Gln is autocyclised to pyroglutamic acid"

XX (ALFA-) ALFACELL CORP.
 XX Saxena SK;
 PI WPI; 2001-167808/17.
 DR
 XX New nucleic acids encoding a ribonuclease (Rnase), useful for the precise
 PT targeting of Rnase to a predetermined cell receptor.
 XX
 XX Claim 1; Col 5-6; 7pp; English.
 PS
 XX The present sequence represents a frog ribonuclease protein (ranpirnase)
 CC (RNase). The specification describes a synthetic ribonuclease protein, in
 CC which the addition of cysteine in the ribonuclease facilitates the
 CC chemical linking of a targeting molecule by the single reactive
 CC sulphydryl group. The specification also describes a method for the
 CC production of ranpirnase using DNA technology instead of processing
 CC biological material. The re-engineering of the protein molecule allows
 CC easier attachment to a targeting molecule thereby making it possible for
 CC the ribonuclease to be delivered to a particular cell receptor where it
 CC might be most effective
 XX
 XX Sequence 104 AA;
 SQ

Query Match 94.5%; Score 547; DB 4; Length 104;
 Best Local Similarity 94.2%; Pred. No. 5.2e-59;
 Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 QY 1 QDWLTQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 Db 1 QDWLTQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 61 FEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SBFYLSDCNVTSPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 104

RESULT 11
 ABG32650
 ID ABG32650 standard; protein; 104 AA.
 XX
 AC ABG32650;
 XX
 XX 15-NOV-2002 (first entry)
 DT
 XX Northern leopard frog ranpirnase protein.
 XX Northern leopard frog; ranpirnase; site-directed mutation; ribonuclease.
 XX Rana pipiens.
 OS
 XX US6423515-B1.
 PN
 XX 23-JUL-2002.
 PD
 XX 14-OCT-2000; 2000US-00687748.
 PF
 XX 10-SEP-1999; 99US-00394268.
 PR
 XX (ALFA-) ALFACELL CORP.
 PA
 XX Saxena SK;
 PI WPI; 2002-664633/71.
 DR
 XX Constructing isolated nucleic acid encoding ribonuclease, by subjecting
 PT desired recombinant plasmid DNA to different site-directed mutations to
 PT produce nucleic acid, using different polymerase chain reaction
 PT protocols.
 XX
 XX Claim 1; Col 5-6; 8pp; English.
 PS
 XX

CC The present invention relates to a new method of constructing isolated
 CC nucleic acid encoding ribonuclease protein with N-terminal Met at
 CC position -1 and Glu at position 1, where its Met has been cleaved and its
 CC Glu has been autocyclised. The method of the invention involves
 CC subjecting pET11d-rOnc(Q1,M23L) plasmid DNA to two different site-
 CC directed mutations, each using overlapping PCR protocol. The method is
 CC useful for constructing an isolated nucleic acid encoding the
 CC ribonuclease. The present amino acid sequence represents the northern
 CC leopard frog ranpirnase protein of the invention
 XX
 XX Sequence 104 AA;
 SQ

Query Match 94.5%; Score 547; DB 5; Length 104;
 Best Local Similarity 94.2%; Pred. No. 5.2e-59;
 Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 QY 1 QDWLTQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 Db 1 QDWLTQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 61 FEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 Db 61 SBFYLSDCNVTSPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 104

RESULT 12
 AAW35126
 ID AAW35126 standard; protein; 379 AA.
 XX
 AC AAW35126;
 XX
 XX 20-APR-1998 (first entry)
 DT
 XX R. pipiens recombinant RNase rOnc fusion protein 2.
 DE
 XX RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 KW
 XX Rana pipiens.
 OS
 XX Synthetic.
 OS
 XX WO9731116-A2.
 PN
 XX 28-AUG-1997.
 PD
 XX 19-FEB-1997; 97WO-US002588.
 PF
 XX 21-FEB-1996; 96US-0011800P.
 PR
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PA
 XX Rybak SM, Newton DL, Boque L, Wlodawer A;
 PI WPI; 1997-435168/40.
 XX N-PSDB; AAT94964.
 DR
 XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 PT
 XX Disclosure; Page 68; 90pp; English.
 PS
 XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans

```
XX
SQ Sequence 379 AA;
  Query Match          94.5%; Score 547; DB 2; Length 379;
  Best Local Similarity 94.2%; Pred. No. 2.8e-58;
  Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
DB 26 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 85

QY 61 FEFYLSDCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVGHC 104
DB 86 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVGSC 129

RESULT 13
AAW30302
ID AAW30302 standard; protein; 104 AA.
XX
AC AAW30302;
DT 09-JUN-1998 (first entry)
XX
DE Recombinant onc protein.
XX
KW Onc; oncanase; ribonuclease; frog; antitumour; pancreatic cancer;
KW human immunodeficiency virus type-1; HIV1; replication.
XX
OS Rana pipiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "pyroglutamic acid; especially 2-pyrrolidone-5-
FT carboxylic acid or 5-oxo-2-pyrrolidinecarboxylic acid"
XX
PN WO9738112-A1.
XX
PD 16-OCT-1997.
XX
PF 04-APR-1997; 97WO-US005675.
XX
PR 04-APR-1996; 96US-00626288.
XX
PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX
PI Youle RJ, Vasandani VM, Wu Y, Boix E, Ardelt W;
XX WPI; 1997-512725/47.
XX
DR Recombinant Onc protein with glutamine residue at position 1 - useful as
PT antitumour and antiviral agent, also as cell culture selection agent.
XX
PS Claim 6; Page 28-29; 35pp; English.
XX
CC This sequence represents a recombinant Onc protein comprising a 104 amino
CC acid sequence having Gln at position 1. Onc, a ribonuclease from Rana
CC pipiens oocytes, is known as an antitumour agent (e.g. for treating
CC pancreatic cancer) and inhibitor of human immunodeficiency virus type-1
CC replication. It can be used therapeutically or as a cell-culture
CC selection agent, e.g. to identify gene therapy compositions able to
CC inhibit tumour growth
XX
SQ Sequence 104 AA;
  Query Match          94.3%; Score 546; DB 2; Length 104;
  Best Local Similarity 94.2%; Pred. No. 6.8e-59;
  Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
DB 1 EDWLTFFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 61 FEFYLSDCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVGHC 104
DB 61 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 14
AAR12344
ID AAR12344 standard; protein; 104 AA.
XX
AC AAR12344;
DT 08-AUG-1991 (first entry)
XX
DE Protein with activity against cancer cells.
XX
KW Frog eggs; Tamoxifen; Stelazine; cancer.
XX
OS Rana pipiens.
XX
PN WO9107435-A.
XX
PD 30-MAY-1991.
XX
PF 13-NOV-1989; 89US-00436141.
XX
PR 13-NOV-1989; 89US-00436141.
PR 18-MAY-1990; 90US-00526314.
XX
PA (ALFA-) ALFACELL CORP.
XX
PI Ardelt WJ, Mikulski SM;
XX WPI; 1991-178059/24.
XX
DR New protein from fertilised eggs of Rana pipiens - active against cancer
PT cells, esp. in combination with Tamoxifen or Stelazine (trifluoro-per-
PT azine).
XX
PS Claim 7; Fig 2; 33pp; English.
XX
CC The protein is derived from fertilised frog eggs. It has an iso-
CC electric point of 9.5 - 10.5, a blocked N-terminal gp. and is free of
CC carbohydrates. It is active against certain cancer cells. The combination
CC of the protein and (2-1-p-dimethylaminoethoxyphenyl)-1, 2-diphenyl-1-
CC butene) citrate salt (Tamoxifen) is much more bio- active than the
CC separate entities against human pancreatic ASPC-1 adenocarcinoma, and the
CC combination of protein and (10-[3-(4-methyl piperazin-1-yl)-propyl]-2-
CC trifluoromethylphenothiazine (Stelazine) is much more reactive than the
CC separate entities against human lung A-549 carcinoma. Activity has also
CC been shown against human sub- maxillary epidermoid carcinoma A-253
CC cells, human ovarian adeno- carcinoma NIH-OVCAR-3 cells, human leukaemic
CC HL-60 cells, human COLO 320 DM cells, human LOX melanoma and human lung
CC squamous car- cinoma HT-520 cells
XX
SQ Sequence 104 AA;
  Query Match          94.0%; Score 544; DB 2; Length 104;
  Best Local Similarity 93.3%; Pred. No. 1.2e-58;
  Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
DB 1 EDWLTFFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 61 FEFYLSDCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVGHC 104
DB 61 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 15
AAR47303
ID AAR47303 standard; protein; 104 AA.
```

```

XX AAR47303;
AC
XX 25-MAR-2003 (revised)
DT 09-SEP-1994 (first entry)
XX
XX ONCONASE (pharmaceutical protein).
XX
XX Onconase; pharmaceutical; protein; adenocarcinoma; treatment; cisplatin;
KW melphalan; adriamycin; ovarian cancer; ovary.
XX
XX Synthetic.
OS
XX
XX WO9403197-A1.
PN
XX
XX 17-FEB-1994.
PD
XX
XX 02-JUL-1993; 93WO-US006357.
PF
XX
XX 30-JUL-1992; 92US-00921180.
PR
XX
XX (ALFA-) ALFACELL CORP.
PA
XX
XX Mikulski SM, Ardelt WJ;
XX
XX WPI; 1994-065396/08.
DR
XX
XX Pharmaceutical contg. Cisplatin, Melphalan or Adriamycin - active
PT in-vitro against OVCAR-3 human ovarian adenocarcinoma cells.
XX
XX Claim 7; Page 13; 18pp; English.
XX
XX This pharmaceutical protein (ONCONASE) is used in the production of a
CC bioactive pharmaceutical composition also comprising one of Cisplatin
CC (cis-diamminedichloroplatinum), Melphalan, (4-[bis-(2-chloroethyl)amino]
CC -L-phenylamine) or Adriamycin (Doxorubicin HCl). The composition has
CC bioactivity in vitro against OVCAR-3 human ovarian adenocarcinoma cells.
CC (Updated on 25-MAR-2003 to correct PN field.)
XX
XX Sequence 104 AA;
SQ
Query Match 94.0%; Score 544; DB 2; Length 104;
Best Local Similarity 93.3%; Pred. No. 1.2e-58;
Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVDCCNLLSTNLFHCKDKNTFIYSRPEPVKAICYGIIASKNVLTT 60
Db 1 EDWLTQKKHINTRDVDCDNIMSTNLFHCKDKNTFIYSRPEPVKAICYGIIASKNVLTT 60
QY 61 FEFYLSDCNVTSRPCYKYLKKSINTFCVCENQAPVHFVGVGHC 104
Db 61 SEFYLSDCNVTSRPCYKYLKKSINTFCVCENQAPVHFVGVGSC 104
Search completed: May 7, 2004, 21:38:26
Job time : 44.363 secs

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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:28:45 ; Search time 12.0636 Seconds
(without alignments)
445.066 Million cell updates/sec

Title: US-09-961-400-4
Perfect score: 579
Sequence: 1 QDWLTFQKKHLNTRDVCN.....TFCVTCENQAPVHFGVGHC 104

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents AA.*
1: /cgn2_6/prodata/2/1aa/5A COMB.pep.*
2: /cgn2_6/prodata/2/1aa/5B COMB.pep.*
3: /cgn2_6/prodata/2/1aa/6A COMB.pep.*
4: /cgn2_6/prodata/2/1aa/6B COMB.pep.*
5: /cgn2_6/prodata/2/1aa/PCTUS COMB.pep.*
6: /cgn2_6/prodata/2/1aa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	549	94.8	104	1	US-08-467-955-2
2	547	94.5	104	3	US-09-394-268-1
3	547	94.5	104	4	US-09-687-748-1
4	547	94.5	104	4	US-08-626-288-1
5	547	94.5	104	4	US-09-095-429-1
6	547	94.5	129	3	US-08-875-811-63
7	547	94.5	379	3	US-08-875-811-43
8	544	94.0	104	1	US-08-283-971-1
9	544	94.0	104	1	US-07-921-619-1
10	544	94.0	104	1	US-08-467-955-1
11	544	94.0	104	2	US-08-891-848-13
12	544	94.0	104	3	US-09-394-268-2
13	544	94.0	104	4	US-09-687-748-2
14	544	94.0	104	4	US-08-626-288-2
15	544	94.0	104	4	US-09-095-429-2
16	544	94.0	105	3	US-08-875-811-39
17	544	94.0	355	3	US-08-875-811-41
18	544	94.0	358	3	US-08-875-811-51
19	542	93.6	104	3	US-08-875-811-1
20	542	93.6	104	4	US-09-071-672-1
21	542	93.6	104	4	US-09-986-119-1
22	542	93.6	106	3	US-08-875-811-28
23	542	93.6	107	3	US-08-875-811-30
24	542	93.6	112	3	US-08-875-811-32
25	542	93.6	251	3	US-08-875-811-59
26	542	93.6	254	3	US-08-875-811-61
27	542	93.6	355	3	US-08-875-811-49

28 542 93.6 355 3 US-08-875-811-57 Sequence 57, Appl
29 542 93.6 355 3 US-08-875-811-64 Sequence 64, Appl
30 542 93.6 366 3 US-08-875-811-55 Sequence 55, Appl
31 537 92.7 105 3 US-08-875-811-24 Sequence 24, Appl
32 537 92.7 105 3 US-08-875-811-26 Sequence 26, Appl
33 533 92.1 358 3 US-08-875-811-45 Sequence 45, Appl
34 533 92.1 365 3 US-08-875-811-53 Sequence 53, Appl
35 518 89.5 107 3 US-08-875-811-20 Sequence 20, Appl
36 481 83.1 360 3 US-08-875-811-47 Sequence 47, Appl
37 474.5 82.0 111 3 US-08-875-811-22 Sequence 22, Appl
38 436 75.3 83 3 US-08-875-811-2 Sequence 2, Appl
39 436 75.3 83 4 US-09-071-672-3 Sequence 3, Appl
40 436 75.3 83 4 US-09-986-119-3 Sequence 3, Appl
41 283 48.9 111 2 US-08-891-848-12 Sequence 12, Appl
42 283 48.9 111 3 US-08-875-811-8 Sequence 8, Appl
43 211.5 36.5 114 3 US-09-223-118-4 Sequence 4, Appl
44 199.5 34.5 114 3 US-09-223-118-2 Sequence 2, Appl
45 198.5 34.3 114 3 US-09-223-118-1 Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-08-467-955-2
; Sequence 2, Application US/08467955
; Patent No. 5728805
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; TITLE OF INVENTION: PHARMACEUTICALS AND METHOD FOR MAKING THEM
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Mark H. Jay, P.A.
; STREET: P.O. Box E
; CITY: Short Hills
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07078-0383
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/467,955
; FILING DATE:

CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/178,118
FILING DATE: 06-APR-1988
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/436,141
FILING DATE: 13-NOV-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/814,332
FILING DATE: 03-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/283,970
FILING DATE: 01-AUG-1994
ATTORNEY/AGENT INFORMATION:
NAME: Jay, Mark H.
REGISTRATION NUMBER: 27507
REFERENCE/DOCKET NUMBER: 5007 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-912-9066
TELEFAX: 201-912-0442
TELEX: No. 5728805 Applicable
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 104 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

```
; MOLECULE TYPE: protein
; HYPOTHETICAL: N
; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Oocyte
US-08-467-955-2

Query Match          94.8%; Score 549; DB 1; Length 104;
Best Local Similarity 94.2%; Pred. No. 8.1e-50;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
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Db 1 EDWLTQKKHINTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 FEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
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Db 61 SEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 2
US-09-394-268-1
; Sequence 1, Application US/09394268
; Patent No. 6175003
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: NUCLEIC ACIDS ENCODING RIBONUCLEASES AND METHODS OF
; FILE OF INVENTION: MAKING THEM
; FILE REFERENCE: 5013
; CURRENT APPLICATION NUMBER: US/09/394,268
; CURRENT FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-394-268-1

Query Match          94.5%; Score 547; DB 3; Length 104;
Best Local Similarity 94.2%; Pred. No. 1.4e-59;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

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Db 61 SEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 3
US-09-687-748-1
; Sequence 1, Application US/09687748
; Patent No. 6423515
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: METHODS OF MAKING NUCLEIC ACIDS ENCODING RIBONUCLEASES
; FILE REFERENCE: 5013 US 01
; CURRENT APPLICATION NUMBER: US/09/687,748
; CURRENT FILING DATE: 2000-10-14
; PRIOR APPLICATION NUMBER: 09/394,268
; PRIOR FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-687-748-1
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Query Match          94.5%; Score 547; DB 4; Length 104;
Best Local Similarity 94.2%; Pred. No. 1.4e-59;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

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Db 1 QDWLTFQKKHINTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 FEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
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Db 61 SEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 4
US-08-626-288-1
; Sequence 1, Application US/08626288
; Patent No. 6649392
; GENERAL INFORMATION:
; APPLICANT: Youle, Richard
; APPLICANT: Vasandani, Veena
; APPLICANT: Wu, Yon-Neng
; APPLICANT: Boix, Ester
; APPLICANT: Ardelet, Wojciech
; TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
; TITLE OF INVENTION: Allows Production by Recombinant Methods
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew
; STREET: One Market Plaza, Steuart Street Tower
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/626,288
; FILING DATE: No. 6649392 yet assigned
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Ran, David B.
; REGISTRATION NUMBER: 38,589
; REFERENCE/DOCKET NUMBER: 15280-267
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 543-9600
; TELEFAX: (415) 543-5043
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-626-288-1

Query Match          94.5%; Score 547; DB 4; Length 104;
Best Local Similarity 94.2%; Pred. No. 1.4e-59;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 1 QDWLTFQKKHINTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 FEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 61 SEFLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 5
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US-09-095-429-1
; Sequence 1, Application US/09095429
; Patent No. 6649393
; GENERAL INFORMATION:
; APPLICANT: Youle, Richard
; APPLICANT: Vasandani, Veena
; APPLICANT: Wu, Yon-Neng
; APPLICANT: Boix, Ester
; APPLICANT: Ardel, Wojciech
; TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
; TITLE OF INVENTION: Allows Production by Recombinant Methods
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew
; STREET: One Market Plaza, Steuart Street Tower
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/095,429
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/626,288
; FILING DATE:
; NAME: Ran, David B.
; ATTORNEY/AGENT INFORMATION:
; REGISTRATION NUMBER: 38,589
; REFERENCE/DOCKET NUMBER: 15280-267
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 543-9600
; TELEFAX: (415) 543-5043
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-095-429-1

Query Match 94.5%; Score 547; DB 4; Length 104;
Best Local Similarity 94.2%; Pred. No. 1.4e-59;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

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Db 1 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60

QY 61 FEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 6
US-08-875-811-63
; Sequence 63, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP

; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Paris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 63:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 129 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-875-811-63

Query Match 94.5%; Score 547; DB 3; Length 129;
Best Local Similarity 94.2%; Pred. No. 1.9e-59;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60
Db 26 QDWLTFQKKHLTNTDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 85

QY 61 FEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 86 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 129

RESULT 7
US-08-875-811-43
; Sequence 43, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811

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/ ; FILING DATE: 19-FEB-1998
/ ; CLASSIFICATION: 435
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: WO PCT/US97/02588
/ ; FILING DATE: 19-FEB-1997
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US 60/011,800
/ ; FILING DATE: 21-FEB-1996
/ ; ATTORNEY/AGENT INFORMATION:
/ ; NAME: Faris, Susan K.
/ ; REGISTRATION NUMBER: 41,739
/ ; REFERENCE/DOCKET NUMBER: 015280-244100US
/ ; TELECOMMUNICATION INFORMATION:
/ ; TELEPHONE: (415) 576-0200
/ ; TELEFAX: (415) 576-0300
/ ; INFORMATION FOR SEQ ID NO: 43:
/ ; SEQUENCE CHARACTERISTICS:
/ ; LENGTH: 379 amino acids
/ ; TYPE: amino acid
/ ; TOPOLOGY: linear
/ ; MOLECULE TYPE: protein
/ ; US-08-875-811-43

Query Match 94.5%; Score 547; DB 3; Length 379;
Best Local Similarity 94.2%; Pred. No. 7.7e-59;
Matches 98; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTPQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICGIIASKNVLT 60
Db 26 QDWLTPQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICGIIASKNVLT 85

QY 61 FEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 86 SEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGSC 129

RESULT 8
US-08-283-971-1
; Sequence 1, Application US/08283971
; Patent No. 5529775
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; APPLICANT: Mikulski, Stanislaw M.
; TITLE OF INVENTION: PHARMACEUTICAL FOR TREATING TUMORS IN HUMANS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.C.
; STREET: P.O. Box 020083, General Post Office
; CITY: Brooklyn
; STATE: New York
; COUNTRY: USA
; ZIP: 11202-0002
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/283,971
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/921,180
; FILING DATE: 30-JUL-1992
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; ATTORNEY/AGENT INFORMATION:
; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5006 US
```

```
/ ; TELECOMMUNICATION INFORMATION:
/ ; TELEPHONE: 718-625-0399
/ ; TELEFAX: 718-625-0399
/ ; TELEX: No. 5529775 Applicable
/ ; INFORMATION FOR SEQ ID NO: 1:
/ ; SEQUENCE CHARACTERISTICS:
/ ; LENGTH: 104 amino acids
/ ; TYPE: amino acid
/ ; STRANDEDNESS: single
/ ; TOPOLOGY: linear
/ ; MOLECULE TYPE: protein
/ ; HYPOTHETICAL: N
/ ; ANTI-SENSE: N
/ ; FRAGMENT TYPE: N-terminal
/ ; ORIGINAL SOURCE:
/ ; ORGANISM: Rana pipiens
/ ; DEVELOPMENTAL STAGE: Embryo
/ ; US-08-283-971-1

Query Match 94.0%; Score 544; DB 1; Length 104;
Best Local Similarity 93.3%; Pred. No. 3.3e-59;
Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTPQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICGIIASKNVLT 60
Db 1 EDWLTPQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICGIIASKNVLT 60

QY 61 FEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGSC 104

RESULT 9
US-07-921-619-1
; Sequence 1, Application US/07921619
; Patent No. 5595734
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; APPLICANT: Mikulski, Stanislaw M.
; TITLE OF INVENTION: PHARMACEUTICAL FOR TREATING TUMORS IN HUMANS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.C.
; STREET: P.O. Box 020083, General Post Office
; CITY: Brooklyn
; STATE: New York
; COUNTRY: USA
; ZIP: 11202-0002
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/921,619
; FILING DATE: 19920728
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; ATTORNEY/AGENT INFORMATION:
; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5005 US
/ ; TELECOMMUNICATION INFORMATION:
/ ; TELEPHONE: 718-625-0399
/ ; TELEFAX: 718-625-0399
/ ; TELEX: No. 5595734 Applicable
/ ; INFORMATION FOR SEQ ID NO: 1:
/ ; SEQUENCE CHARACTERISTICS:
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; LENGTH: 104 amino acids
; TYPE: AMINO ACID
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: N
; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Embryo
;
US-07-921-619-1
Query Match 94.0%; Score 544; DB 1; Length 104;
Best Local Similarity 93.3%; Pred. No. 3.3e-59;
Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHITNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
DB 1 EDWLTFFQKKHITNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60

QY 61 PEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGCHC 104
DB 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGCHC 104

RESULT 10
US-08-467-955-1
; Sequence 1, Application US/08467955
; Patent No. 5728805
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D. Wojcietech J.
; TITLE OF INVENTION: PHARMACEUTICALS AND METHOD FOR MAKING THEM
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.A.
; STREET: P.O. Box E
; CITY: Short Hills
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07078-0383
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/467,955
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/814,332
; FILING DATE: 03-FEB-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/283,970
; FILING DATE: 01-AUG-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5007 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 201-912-9066
; TELEFAX: 201-912-0442
; TELEX: No. 5728805 Applicable
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
;
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: N
; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Oocyte
;
US-08-467-955-1
Query Match 94.0%; Score 544; DB 1; Length 104;
Best Local Similarity 93.3%; Pred. No. 3.3e-59;
Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHITNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
DB 1 EDWLTFFQKKHITNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60

QY 61 PEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGCHC 104
DB 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGCHC 104

RESULT 11
US-08-891-848-13
; Sequence 13, Application US/08891848
; Patent No. 5955073
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Youle, Richard J.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Nicholls, Peter J.
; TITLE OF INVENTION: Selective RNase Cytotoxic Reagents
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/891,848
; FILING DATE: No. 5955073 yet assigned
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/125,462
; FILING DATE: 22-SEP-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/014,082
; FILING DATE: 04-FEB-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/779,195
; FILING DATE: 22-OCT-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/510,696
; FILING DATE: 20-APR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Weber, Ellen Lauver
; REGISTRATION NUMBER: 32,762
; REFERENCE/DOCKET NUMBER: 015280-110310US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
;
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: N
; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Oocyte
;
US-08-467-955-1
Query Match 94.0%; Score 544; DB 1; Length 104;
Best Local Similarity 93.3%; Pred. No. 3.3e-59;
Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHITNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
DB 1 EDWLTFFQKKHITNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60

QY 61 PEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGCHC 104
DB 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGCHC 104
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/ LENGTH: 104 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ FEATURE:
/ NAME/KEY: Protein
/ LOCATION: 1..104
/ OTHER INFORMATION: /label= Onc
/ OTHER INFORMATION: /note= "Oncanase from Rana pipiens"
US-08-891-848-13

Query Match          94.0%; Score 544; DB 2; Length 104;
Best Local Similarity 93.3%; Pred. No. 3.3e-59;
Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QDWLTQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIISKNVLT 60
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Db 1 EDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIISKNVLT 60
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

QY 61 FEFYSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
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Db 61 SEFYSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 12
US-09-394-268-2
/ Sequence 2, Application US/09394268
/ Patent No. 6175003
/ GENERAL INFORMATION:
/ APPLICANT: Saxena, Shailendra K
/ TITLE OF INVENTION: NUCLEIC ACIDS ENCODING RIBONUCLEASES AND METHODS OF
/ FILE REFERENCE: 5013
/ CURRENT APPLICATION NUMBER: US/09/394,268
/ CURRENT FILING DATE: 1999-09-10
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: PatentIn Ver. 2.0
/ SEQ ID NO 2
/ LENGTH: 104
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: SEQ ID NO:1 with Leu at position 23 and Cys at
/ OTHER INFORMATION: position 72
US-09-394-268-2

Query Match          94.0%; Score 544; DB 3; Length 104;
Best Local Similarity 94.2%; Pred. No. 3.3e-59;
Matches 98; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 QDWLTQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIISKNVLT 60
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Db 1 QDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIISKNVLT 60
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

QY 61 FEFYSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 61 SEFYSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 13
US-09-687-748-2
/ Sequence 2, Application US/09687748
/ Patent No. 6423515
/ GENERAL INFORMATION:
/ APPLICANT: Saxena, Shailendra K
/ TITLE OF INVENTION: METHODS OF MAKING NUCLEIC ACIDS ENCODING RIBONUCLEASES
/ FILE REFERENCE: 5013 US 01
/ CURRENT APPLICATION NUMBER: US/09/687,748
/ CURRENT FILING DATE: 2000-10-14
/ PRIOR APPLICATION NUMBER: 09/394,268
/ PRIOR FILING DATE: 1999-09-10
/ NUMBER OF SEQ ID NOS: 8

/ SOFTWARE: PatentIn Ver. 2.0
/ SEQ ID NO 2
/ LENGTH: 104
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: SEQ ID NO:1 with Leu at position 23 and Cys at
/ OTHER INFORMATION: position 72
US-09-687-748-2

Query Match          94.0%; Score 544; DB 3; Length 104;
Best Local Similarity 94.2%; Pred. No. 3.3e-59;
Matches 98; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 QDWLTQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIISKNVLT 60
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 1 QDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIISKNVLT 60
   :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

QY 61 FEFYSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
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Db 61 SEFYSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 14
US-08-626-288-2
/ Sequence 2, Application US/08626288
/ Patent No. 6649392
/ GENERAL INFORMATION:
/ APPLICANT: Youle, Richard
/ APPLICANT: Vasandani, Veena
/ APPLICANT: Wu, Yon-Neng
/ APPLICANT: Boix, Ester
/ APPLICANT: Ardeit, Wojciech
/ TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
/ TITLE OF INVENTION: Allows Production by Recombinant Methods
/ NUMBER OF SEQUENCES: 3
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Townsend and Townsend and Crew
/ STREET: One Market Plaza, Steuart Street Tower
/ CITY: San Francisco
/ STATE: California
/ COUNTRY: USA
/ ZIP: 94105-1492
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: PatentIn Release #1.0, Version #1.30
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/626,288
/ FILING DATE: No. 6649392 yet assigned
/ CLASSIFICATION: 530
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Ran, David B.
/ REGISTRATION NUMBER: 38,589
/ REFERENCE/DOCKET NUMBER: 15280-267
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (415) 543-9600
/ TELEFAX: (415) 543-5043
/ INFORMATION FOR SEQ ID NO: 2:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 104 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ FEATURE:
/ NAME/KEY: Modified-site
/ LOCATION: 1
/ OTHER INFORMATION: /product= "OTHER"
/ OTHER INFORMATION: /note= "Xaa = pyroglutamic acid
/ OTHER INFORMATION: (2-pyrrolidone-5-carboxylic acid or
/ OTHER INFORMATION: 5-oxo-2-pyrrolidinecarboxylic acid)"
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US-08-626-288-2

Query Match 94.0%; Score 544; DB 4; Length 104;
Best Local Similarity 95.1%; Pred. No. 3.3e-59;
Matches 98; Conservative 2; Mismatches 3; Indels

2	DMLTQKGLHNTNRDVCNNILSTNLPHCKDKNNTFIYSRPEPVKAI	CGKIIGIASKNVLTTF	61
QY			
2	DMLTQKGLHNTNRDVCNNILSTNLPHCKDKNNTFIYSRPEPVKAI	CGKIIGIASKNVLTTF	61
Db			
2	DMLTQKGLHNTNRDVCNNILSTNLPHCKDKNNTFIYSRPEPVKAI	CGKIIGIASKNVLTTF	61
QY			
62	EYFLSDCNVTSRPCKYKLKKSNTNTRFCVTCENQAPVHFVGVGH	C	104
QY			
62	EYFLSDCNVTSRPCKYKLKKSNTNTRFCVTCENQAPVHFVGVGH	C	104
Db			

Search completed: May 7, 2004, 21:40:43
Job time : 12.0636 secs

RESULT 15

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US-09-095-429-2
/ Sequence 2, Application US/09095429
/ Patent No. 6649393
/ GENERAL INFORMATION:
/ APPLICANT: Youle, Richard
/ APPLICANT: Vasandani, Veena
/ APPLICANT: Wu, Yon-Neng
/ APPLICANT: Boix, Ester
/ APPLICANT: Ardelet, Wojciech
/ TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
/ TITLE OF INVENTION: Allows Production by Recombinant Methods
/ NUMBER OF SEQUENCES: 3
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Townsend and Townsend and Crew
/ STREET: One Market Plaza, Steuart Street Tower
/ CITY: San Francisco
/ STATE: California
/ COUNTRY: USA
/ ZIP: 94105-1492
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: PatentIn Release #1.0, Version #1.30
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/09/095,429
/ FILING DATE:
/ CLASSIFICATION:
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 08/626,288
/ FILING DATE:
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Ran, David B.
/ REGISTRATION NUMBER: 38,589
/ REFERENCE/DOCKET NUMBER: 15280-267
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (415) 543-9600
/ TELEFAX: (415) 543-5043
/ INFORMATION FOR SEQ ID NO: 2:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 104 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ FEATURE:
/ NAME/KEY: Modified-site
/ LOCATION: 1
/ OTHER INFORMATION: /product= "OTHER"
/ OTHER INFORMATION: /note= "Xaa = pyroglutamic acid
/ OTHER INFORMATION: (2-pyrrolidone-5-carboxylic acid or
/ OTHER INFORMATION: 5-oxo-2-pyrrolidinecarboxylic acid)"
US-09-095-429-2

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S-09-095-429-2
 ORIGIN INFORMATION: 3-Oxo-2-pyridinecarboxylic acid
 Query Match 94.0%; Score 544; DB 4; Length 104;
 Best Local Similarity 95.1%; Pred. No. 3.3e-59;
 Matches 98; Conservative 2; Mismatches 3; Indels

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Db	2	DWLTFQKKHLTNTRDVC	NNILSTNLFHCKDKNTFI	YSRPEPVKAICKGI	IASKNVLTTS	61
Qy	62	EFYLSDCNVTSPCKYK	LKKSTNTFCVTCENQAPV	HFGVGHC	104	
Db	62	EFYLSDCNVTSPCKYK	LKKSTNKECVTCENQAPV	HFGVGSC	104	

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:29:40 ; Search time 33.3695 Seconds
(without alignments)

865.070 Million cell updates/sec

Title: US-09-961-400-4

Perfect score: 579

Sequence: 1 QDWLTFQKKHLNTRDVCN.....TFCVTCENQAPVHFVGVC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1140673 seqs, 277566755 residues

Total number of hits satisfying chosen parameters: 1140673

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:*

1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep.*
2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
3: /cgn2_6/ptodata/2/pubpaa/US05_NEW_PUB.pep.*
4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep.*
6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep.*
10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep.*
11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep.*
14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
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17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	579	100.0	104	10	US-09-948-391A-4
2	579	100.0	104	10	US-09-961-400-4
3	575	99.3	105	10	US-09-961-400-8
4	571	98.6	111	10	US-09-961-400-9
5	570	98.4	105	10	US-09-948-391A-8
6	570	98.4	111	10	US-09-948-391A-9
7	569	98.3	104	10	US-09-961-400-2
8	569	98.3	105	10	US-09-948-391A-6
9	569	98.3	105	10	US-09-961-400-6
10	569	98.3	127	10	US-09-948-391A-28
11	569	98.3	127	10	US-09-961-400-28
12	564	97.4	104	10	US-09-948-391A-11
13	564	97.4	104	10	US-09-961-400-11
14	564	97.4	105	10	US-09-948-391A-13
15	564	97.4	105	10	US-09-961-400-13

16	560	96.7	104	10	US-09-948-391A-2
17	547	94.5	105	14	US-10-153-882-2
18	542	93.6	104	9	US-09-986-119-1
19	542	93.6	104	10	US-09-918-887-1
20	539	93.1	104	12	US-10-461-713-53
21	436	75.3	83	9	US-09-986-119-3
22	436	75.3	83	10	US-09-918-887-3
23	276.5	47.8	110	10	US-09-961-400-19
24	276.5	47.8	111	10	US-09-948-391A-21
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26	276.5	47.8	117	10	US-09-948-391A-22
27	276.5	47.8	117	10	US-09-961-400-22
28	275.5	47.6	110	10	US-09-948-391A-15
29	275.5	47.6	111	10	US-09-961-400-15
30	275.5	47.6	111	10	US-09-961-400-17
31	270.5	46.7	110	10	US-09-948-391A-19
32	270.5	46.7	110	10	US-09-948-391A-24
33	270.5	46.7	110	10	US-09-961-400-24
34	270.5	46.7	111	10	US-09-948-391A-26
35	270.5	46.7	111	10	US-09-961-400-26
36	269.5	46.5	111	10	US-09-948-391A-17
37	153.5	26.5	169	13	US-10-016-447-2
38	142	24.5	119	12	US-10-016-248-89
39	142	24.5	119	15	US-10-074-978A-139
40	120.5	20.8	124	13	US-10-016-447-5
41	116	20.0	124	12	US-10-037-417-103
42	108	18.7	124	9	US-09-981-286A-8
43	108	18.7	124	12	US-10-461-713-50
44	106	18.3	147	9	US-09-286-240-6
45	106	18.3	147	9	US-09-863-777-2

ALIGNMENTS

RESULT 1

US-09-948-391A-4
; Sequence 4, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met23Leu substitution
; OTHER INFORMATION: (recombinant RapLRI Met23Leu)
US-09-948-391A-4

Query Match 100.0%; Score 579; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.4e-59;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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1 QDWLTFQKKHLNTRDVCNIIILNLFHCKDKNTFIYSRPFVKAIKGIASKNVLT 60
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Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
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Db 61 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104

RESULT 2
US-09-961-400-4
; Sequence 4, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-4

Query Match 100.0%; Score 579; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.4e-59;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
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Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
|||||
Db 61 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104

RESULT 3
US-09-961-400-8
; Sequence 8, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-8

Query Match 99.3%; Score 575; DB 10; Length 105;
Best Local Similarity 99.0%; Pred. No. 4.2e-59;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
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Db 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61

QY 61 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
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Db 62 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 105

RESULT 4
US-09-961-400-9
; Sequence 9, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-9

Query Match 98.6%; Score 571; DB 10; Length 111;
Best Local Similarity 99.0%; Pred. No. 1.3e-58;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
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Db 8 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 67

QY 61 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 104
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Db 68 FEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC 111

RESULT 5
US-09-948-391A-8
; Sequence 8, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613

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; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Met24Leu
; OTHER INFORMATION: substitution (recombinant Met(-1) RapLR1 Met23Leu)
US-09-948-391A-8

Query Match          98.4%; Score 570; DB 10; Length 105;
Best Local Similarity 99.0%; Pred. No. 1.6e-58;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTDRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 2 QDWLTFQKKHLTNTDRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
QY 61 FEFYLSDCNVTSRPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104
Db 62 FEFYLSDCNVTSRPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 105

RESULT 6
US-09-948-391A-9
; Sequence 9, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with (His)6 tag, Met at position 7
; OTHER INFORMATION: and Met30Leu substitution (recombinant Met(-1)
; OTHER INFORMATION: RapLR1 Met23Leu-(His)6)
US-09-948-391A-9

Query Match          98.4%; Score 570; DB 10; Length 111;
Best Local Similarity 99.0%; Pred. No. 1.7e-58;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTDRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 8 QDWLTFQKKHLTNTDRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 67
QY 61 FEFYLSDCNVTSRPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104
Db 68 FEFYLSDCNVTSRPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 111

RESULT 7
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US-09-961-400-2
; Sequence 2, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-2
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Query Match          98.3%; Score 569; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 2.1e-58;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNTDRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 QDWLTFQKKHLTNTDRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 FEFYLSDCNVTSRPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104
Db 61 FEFYLSDCNVTSRPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104
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RESULT 8
US-09-948-391A-6
; Sequence 6, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 (recombinant
; OTHER INFORMATION: Met(-1) RapLR1)
US-09-948-391A-6

Query Match          98.3%; Score 569; DB 10; Length 105;
Best Local Similarity 98.1%; Pred. No. 2.1e-58;
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Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
QY 61 FEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 62 SEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 105

RESULT 9
US-09-961-400-6
; Sequence 6, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR FILING DATE: 09/622,613
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-6

Query Match 98.3%; Score 569; DB 10; Length 105;
Best Local Similarity 98.1%; Pred. No. 2.1e-58;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
QY 61 FEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 62 SEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 105

RESULT 10
US-09-948-391A-28
; Sequence 28, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 60/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.0
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; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: Rana pipiens ribonuclease (RapLR1) Clone 5a1b cDNA
; OTHER INFORMATION: insert
US-09-948-391A-28

Query Match 98.3%; Score 569; DB 10; Length 127;
Best Local Similarity 98.1%; Pred. No. 2.7e-58;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 24 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 83
QY 61 FEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 84 SEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 127

RESULT 11
US-09-961-400-28
; Sequence 28, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR FILING DATE: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28

Query Match 98.3%; Score 569; DB 10; Length 127;
Best Local Similarity 98.1%; Pred. No. 2.7e-58;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 24 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 83
QY 61 FEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 84 SEFYLSDCNVTSPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 127

RESULT 12
US-09-948-391A-11
; Sequence 11, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
```



```

; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR FILING DATE: 1998-03-27
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with GlnSer substitution
; OTHER INFORMATION: (recombinant RaPLR1 Q1S)
US-09-948-391A-11

Query Match          97.4%; Score 564; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 8e-58;
Matches 101; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 DMLTFQKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTF 61
   |||||
Db 2 DMLTFQKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTS 61

QY 62 EYILSDCNVTSRCPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104
   |||||
Db 62 EYILSDCNVTSRCPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104

RESULT 13
US-09-961-400-11
; Sequence 11, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-11

Query Match          97.4%; Score 564; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 8e-58;
Matches 101; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 DMLTFQKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTF 61
   |||||
Db 2 DMLTFQKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTS 61

QY 62 EYILSDCNVTSRCPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104
   |||||
Db 62 EYILSDCNVTSRCPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104
```

```

RESULT 14
US-09-948-391A-13
; Sequence 13, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and GlnSer
; OTHER INFORMATION: substitution (recombinant Met(-1) RaPLR1 Q1S)
US-09-948-391A-13

Query Match          97.4%; Score 564; DB 10; Length 105;
Best Local Similarity 98.1%; Pred. No. 8.1e-58;
Matches 101; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 DMLTFQKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTF 61
   |||||
Db 3 DMLTFQKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTS 62

QY 62 EYILSDCNVTSRCPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104
   |||||
Db 63 EYILSDCNVTSRCPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 105

RESULT 15
US-09-961-400-13
; Sequence 13, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-13
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Query Match 97.4%; Score 564; DB 10; Length 105;
Best Local Similarity 98.1%; Pred. No. 8.1e-58;
Matches 101; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 2 DWLTFQKKHLTNTTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAI CKGIIASKNVLTTF 61
DB 3 DWLTFQKKHLTNTTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAI CKGIIASKNVLTTT 62
QY 62 EFYLSDCNVTSRPCKYKIKKSTNTFCVTCENQAPVHFVGHC 104
DB 63 EFYLSDCNVTSRPCKYKIKKSTNTFCVTCENQAPVHFVGHC 105

Search completed: May 7, 2004, 21:51:56
Job time : 34.3695 secs

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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:38:36 ; Search time 9.43686 Seconds
(without alignments)
1060.090 Million cell updates/sec

Title: US-09-961-400-4

Perfect score: 579

Sequence: 1 QWLTFQKKHLNTRDVCN.....TFCVTCENQAPVHFVGVGHC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : PIR 78:*

1: Pirl:*

2: pirl2:*

3: pirl3:*

4: pirl4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	544	94.0	104	2 A39035	ribonuclease-relat
2	283	48.9	111	2 A27121	ribonuclease-relat
3	279.5	48.3	111	1 JX0120	ribonuclease-relat
4	263.5	45.5	111	2 JX0085	pancreatic ribonuc
5	142	24.5	119	2 S4111	pancreatic ribonuc
6	123	21.2	124	1 NRUI	pancreatic ribonuc
7	120	20.7	125	1 A32474	pancreatic ribonuc
8	118	20.4	128	1 NRGFB	pancreatic ribonuc
9	117	20.2	128	1 NRCU	pancreatic ribonuc
10	116	20.0	124	1 NRWHK	pancreatic ribonuc
11	112.5	19.4	145	1 A35932	pancreatic ribonuc
12	111	19.2	128	1 NRKS	pancreatic ribonuc
13	110	19.0	125	1 B43825	pancreatic ribonuc
14	110	19.0	128	1 NRY	pancreatic ribonuc
15	108.5	18.7	147	2 I52489	pancreatic ribonuc
16	108	18.7	124	1 NRBOB	pancreatic ribonuc
17	108	18.7	124	1 NRCE	pancreatic ribonuc
18	108	18.7	150	1 NRBO	pancreatic ribonuc
19	107	18.5	124	2 S08549	pancreatic ribonuc
20	106	18.3	147	1 NRHUAG	pancreatic ribonuc
21	105	18.1	124	1 NRSH	pancreatic ribonuc
22	105	18.1	124	1 NRPRH	pancreatic ribonuc
23	105	18.1	124	1 NRHP	pancreatic ribonuc
24	105	18.1	124	2 S07141	pancreatic ribonuc
25	104.5	18.0	123	1 A43825	pancreatic ribonuc
26	104	18.0	124	1 NRBN	pancreatic ribonuc
27	104	18.0	124	1 NRWB	pancreatic ribonuc
28	103	17.8	124	1 NRGF	pancreatic ribonuc
29	103	17.8	124	1 NRPG	pancreatic ribonuc

30	103	17.8	128	1 NRPO	pancreatic ribonuc
31	103	17.8	167	2 S20066	pancreatic-type ri
32	102	17.6	128	1 NRHO	pancreatic ribonuc
33	101.5	17.5	155	2 JC6159	eosinophil-associa
34	100	17.3	124	1 NRGPA	pancreatic ribonuc
35	99	17.1	124	1 NRDEO	pancreatic ribonuc
36	99	17.1	124	1 NRDM	pancreatic ribonuc
37	99	17.1	124	1 NRCMM	pancreatic ribonuc
38	99	17.1	124	1 NRCMB	pancreatic ribonuc
39	98.5	17.0	124	2 S08546	pancreatic ribonuc
40	98	16.9	124	1 NRG	pancreatic ribonuc
41	98	16.9	156	2 JC6160	eosinophil-associa
42	97	16.8	124	1 NRANE	pancreatic ribonuc
43	96.5	16.7	119	2 JX0115	pancreatic ribonuc
44	96	16.6	124	1 NRANT	pancreatic ribonuc
45	96	16.6	124	1 NREKN	pancreatic ribonuc

ALIGNMENTS

RESULT 1

A39035

ribonuclease-related anti-tumor protein - northern leopard frog (fragment)

C:Species: Rana pipiens (northern leopard frog)

C:Date: 31-Jul-1991 #sequence_revision 31-Jul-1991 #text_change 30-Jun-1993

C:Accession: A39035

R:Ardelt, W.; Mikulski, S.M.; Shogen, K.

J. Biol. Chem. 266, 245-251, 1991

A:Title: Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and earl

A:Reference number: A39035; MUID:91093131; PMID:1985896

A:Accession: A39035

A>Status: preliminary

A:Molecule type: protein

A:Residues: 1-104 <ARD>

C:Superfamily: pancreatic ribonuclease

Query Match 94.0%; Score 544; DB 2; Length 104;

Best Local Similarity 93.3%; Pred. No. 1.4e-47;

Matches 97; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 1 QWLTFQKKHLNTRDVCNNTLSNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60

Db 1 EDWLTFOKKHINTRDVDCDNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60

QY 61 FEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

Db 61 SEFYLSDCNVTSPCKYKLLKSTNKFVTCENQAPVHFVGVGSC 104

RESULT 2

A27121

ribonuclease-related sialic acid-binding lectin - bullfrog

C:Species: Rana catesbeiana (bullfrog)

C:Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 30-Jun-1993

C:Accession: A27121

R:Titani, K.; Takio, K.; Kuwada, M.; Nitta, K.; Sakakibara, F.; Kawachi, H.; Takayanagi

Biochemistry 26, 2189-2194, 1987

A:Title: Amino acid sequence of sialic acid-binding lectin from frog (Rana catesbeiana)

A:Reference number: A27121; MUID:87299649; PMID:3304421

A:Accession: A27121

A:Molecule type: protein

A:Residues: 1-111 <TIT>

C:Superfamily: pancreatic ribonuclease

C:Keywords: lectin

Query Match 48.9%; Score 283; DB 2; Length 111;

Best Local Similarity 47.7%; Pred. No. 2.2e-21;

Matches 53; Conservative 17; Mismatches 33; Indels 8; Gaps 3;

QY 1 QWLTFQKKHLNTRDVCNNTLSNLF-----HCKDKNTFIYSRPEPVKAICKGIIASKN 56

Db 1 ENWATFOOKHIINTPIINCNTIMDNIIYIVGGQCKRVNTFIISATTVAICTGVI-NNN 59

```
C;Species: Iguana iguana (common iguana)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 21-Aug-1998
C;Accession: S4111
R;Zhao, W.; Beintema, J.J.; Hofsteenge, J.
Eur. J. Biochem. 219, 641-646, 1994
A;Title: The amino acid sequence of iguana (Iguana iguana) pancreatic ribonuclease.
A;Reference number: S4111; MUID:94139745; PMID:8307028
A;Accession: S4111
A>Status: preliminary
A:Molecule type: protein
A;Residues: 1-119 <ZHA>
C;Superfamily: pancreatic ribonuclease

Query Match          24.5%; Score 142; DB 2; Length 119;
Best Local Similarity 29.8%; Pred.No. 3.1e-07;
Matches 34; Conservative 19; Mismatches 45; Indels 16; Gaps 5;

QY      1 QDWLTPQKKHL-----TNTRDVDCNNIL---STNLFCHCKDKNFTFYSRPEFVKALIC--K 49
       :|||:::         :::::           :|||:::         :::
Db       1 QDWSSFNKHIDYPETASNPAYCDLMQRRLNPTKCTENTFVHASPEIQVCSSG 60
       :|||:::         :::::           :|||:::         :::

QY      50 GIASKNVLTTFE-FYLSDC-----NVTGRPKYKLKSTNTFCVTCENQAIVHF 98
       :|||:::         :::::           :|||:::         :::
Db       61 GTHYEDNLVDNSFSLDTCKNVGTAPSSCKYNGTGTGKRIRACENNQPVHF 114
       :|||:::         :::::           :|||:::         :::

RESULT 6
NRUI
pancreatic ribonuclease (EC 3.1.1.27.5) - cuis
N;Alternate names: RNase I; RNase A
C;Species: Galea musteloides (cuis)
C;Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 04-Oct-1996
C;Accession: A00827
R;Beintema, J.J.; Neuteboom, B.
J. Mol. Evol. 19, 145-152, 1983
A;Title: Origin of the duplicated ribonuclease gene in guinea-pig: comparison of th
A;Reference number: A92957; MUID:87036770; PMID:6571219
A;Accession: A00827
A:Molecule type: protein
A;Residues: 1-124 <BEI>
A;Note: about one-third of the molecules lacked Ala-1
C;Comment: The cuis is a rodent belonging to the same subfamily as the guinea pig.
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Dissulfide bonds: #status predicted
F;94/Binding site: carbohydrate (Asn) (covalent) #status absent

Query Match          21.2%; Score 123; DB 1; Length 124;
Best Local Similarity 28.2%; Pred.No. 2.6e-05;
Matches 33; Conservative 21; Mismatches 39; Indels 24; Gaps 7;

QY      4 LNFQKKHL-----TNTRDVDCNNIL---STNLFCHCKDKNFTFYSRPEFVKALIC--KGI 51
       :|||:::         :::::           :|||:::         :::
Db       6 MKFQRHMSDGHPDNTN--YCNEWVRSMVTGRCAPVNTFVHEPLEAVQVCSQKNV 63
       :|||:::         :::::           :|||:::         :::

QY      52 IASKNVLTTFEY----ISDCNVTGRP----CKYKLKXSTNTFCVTCSE--QAPVHF 98
       :|||:::         :::::           :|||:::         :::
Db       64 PCKNGOTNCYQSHSMRIITDCRTSSKYPNGSYRMTOAKSIIIVACEGTSPVPVF 120
       :|||:::         :::::           :|||:::         :::

RESULT 7
A32474
angiogenin [validated] - bovine
N;Alternate names: angiogenesis factor
N;Contains: ribonuclease (EC 3.1.27.-)
C;Species: Bos primigenius taurus (cattle)
C;Date: 25-Sep-1989 #sequence_revision 25-Sep-1989 #text_change 15-Sep-2000
C;Accession: A32474; S02001; A30044; S48212
R;Bond, M.D.; Strýdom, D.J.
Biochemistry 28, 6110-6113, 1989
A;Title: Amino acid sequence of bovine angiogenin.
A;Reference number: A32474; MUID:89375344; PMID:2775757
```

A:Accession: A32474
 A:Molecule type: protein
 A:Residues: 1-125 <BON>
 A:Experimental source: plasma
 R:Maes, P.; Damart, D.; Rommens, C.; Montreuil, J.; Spik, G.; Tartar, A.
 FEBS Lett. 241, 41-45, 1988
 A:Title: The complete amino acid sequence of bovine milk angiogenin.
 A:Reference number: S02001; MUID:89065101; PMID:3197838
 A:Accession: S02001
 A:Molecule type: protein
 A:Residues: 1-125 <MAE>
 A:Experimental source: milk
 R:Achariya, K.R.; Shapiro, R.; Riordan, J.F.; Vallee, B.L.
 submitted to the Brookhaven Protein Data Bank, January 1995
 A:Reference number: A65065; PDB:1AGI
 A:Contents: annotation; X-ray crystallography, 1.5 angstroms, residues 1-125
 R:Achariya, K.R.; Shapiro, R.; Riordan, J.F.; Vallee, B.L.
 Proc. Natl. Acad. Sci. U.S.A. 92, 2949-2953, 1995
 A:Title: Crystal structure of bovine angiogenin at 1.5 Angstroms resolution.
 A:Reference number: A58315; MUID:95224057; PMID:7708754
 A:Contents: annotation; X-ray crystallography, 1.5 angstroms
 R:Lequin, O.; Albarret, C.; Bontems, F.; Spik, G.; Lallemand, J.Y.
 submitted to the Brookhaven Protein Data Bank, April 1996
 A:Reference number: A65709; PDB:1G10
 A:Contents: annotation; conformation by (1)H-NMR, residues 1-125
 R:Lequin, O.; Albarret, C.; Bontems, F.; Spik, G.; Lallemand, J.Y.
 Biochemistry 35, 8870-8880, 1996
 A:Title: Solution structure of bovine angiogenin by (1)H nuclear magnetic resonance spectroscopy
 A:Reference number: A58821; MUID:96280645; PMID:8688423
 A:Contents: annotation; conformation by (1)H-NMR
 R:Reisdorf, C.; Abergel, D.; Bontems, F.; Lallemand, J.Y.; Decottignies, J.P.; Spik, G.
 Eur. J. Biochem. 224, 811-822, 1994
 A:Title: Proton resonance assignments and secondary structure of bovine angiogenin.
 A:Reference number: S48212; MUID:95010071; PMID:7925406
 A:Contents: annotation; conformation by (1)H-NMR
 C:Function:
 A:Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: angiogenesis; hydrolase; nucleic acid degradation
 F:60-68/Region: receptor binding #status predicted
 F:14,41,115/Active site: His, Lys, His #status predicted
 F:27-82,40-93,58-108/Disulfide bonds: #status experimental

Query Match 20.7%; Score 120; DB 1; Length 125;
 Best Local Similarity 32.7%; Pred. No. 5.3e-05;
 Matches 32; Conservative 14; Mismatches 32; Indels 20; Gaps 5;
 QY 16 DVDCCNLLSTNLF--HCKDKNTFYSRPEPVKAICK-----GIATSKNVLITFEFY 64
 DB 24 DEYCFNMKNRLTFPKDKRNTFVHGNKNDIKALCEDRNGQPYRGDLRISK-----EFQ 78

QY 65 LSDC---NVTER-PCKYKLKSTNTFCVTCENQAPVHF 98
 DB 79 ITICKHKGSSRRPCKRYGATEDSRVIVGCEGLPVHF 116

RESULT 8
 NKGPB
 pancreatic ribonuclease (EC 3.1.27.5) B - guinea pig (tentative sequence)
 N:Alternate names: RNase IB
 C:Species: Cavia porcellus (guinea pig)
 C:Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 31-Mar-2000
 C:Accession: A00826
 R:van den Berg, A.; van den Hende-Timmer, L.; Hofsteenge, J.; Gaastera, W.; Beintema, J.J.
 Eur. J. Biochem. 75, 91-100, 1977
 A:Title: Guinea pig pancreatic ribonucleases. Isolation, properties, primary structure and amino acid sequence
 A:Reference number: A91247; MUID:77185023; PMID:862624
 A:Accession: A00826
 A:Molecule type: protein
 A:Residues: 1-128 <VAN>
 A:Note: 64-Pro was also found
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas

F:12,41,119/Active site: His, Lys, His #status predicted
 F:21,34/Binding site: carbohydrate (Asn) (covalent) #status experimental
 F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted

Query Match 20.4%; Score 118; DB 1; Length 128;
 Best Local Similarity 25.9%; Pred. No. 8.6e-05;
 Matches 30; Conservative 25; Mismatches 39; Indels 22; Gaps 7;
 QY 4 LTFQKKHL-----TNTRDVDCNNIL---STNLFHCKDKNTFYSRPEPVKAIC--KGII 52
 DB 6 MFKQRMDEPGSPSSSY-CNVMMRRNTQGRCKPVNTFVHESLADVQAVCFQKNVL 64

QY 53 ASKNVLITFEFY-----LSDCNVTSRP-----CKYKLKSTNTFCVTCENQ--APVHF 98
 DB 65 CKNGQTCNQSYSRMRITDCRVTSSSKPFNCYSRMSQAOKSIIVACEGPGYVPVHF 120

RESULT 9
 NRCU
 pancreatic ribonuclease (EC 3.1.27.5) - nutria (tentative sequence)
 N:Alternate names: RNase 1; RNase A
 C:Species: Myocastor coypus (nutria, coypu)
 C:Date: 24-Apr-1984 #sequence_revision 30-Sep-1988 #text_change 31-Mar-2000
 C:Accession: A00822
 R:van den Berg, A.; van den Hende-Timmer, L.; Beintema, J.J.
 Biochim. Biophys. Acta 453, 400-409, 1976
 A:Title: Isolation, properties and primary structure of coypu and chinchilla pancreatic ribonuclease
 A:Reference number: A90612; MUID:77065676; PMID:999896
 A:Accession: A00822
 A:Molecule type: protein
 A:Residues: 1-128 <VAN>
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F:12,41,119/Active site: His, Lys, His #status predicted
 F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F:34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 20.2%; Score 117; DB 1; Length 128;
 Best Local Similarity 28.2%; Pred. No. 0.00011;
 Matches 33; Conservative 19; Mismatches 37; Indels 28; Gaps 7;
 QY 6 FQKKHL-----TNTRDVDCNNIL--STNLF--HCKDKNTFYSRPEPVKAICKGIATSKNV 57
 DB 8 FERQHMDSRGSPSTNPNYCNEMMKSRNMTQGRCKPVNTFVHEPLADVQAVC----FQKNV 63

QY 58 L-----TTFEYLSDCNVTSRP-----CKYKLKSTNTFCVTCENQ--APVHF 98
 DB 64 LCKNGQTCNQSYSNMHHITDCRVTSNSDYPCNSYRTEQESIVVACEGNYPVPVHF 120

RESULT 10
 NRWHK
 pancreatic ribonuclease (EC 3.1.27.5) - minke whale
 N:Alternate names: RNase 1; RNase A
 C:Species: Balaeoptera acutorostrata (minke whale, lesser rorqual)
 C:Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 03-Jun-1994
 C:Accession: A00818
 R:Emmens, M.; Welling, G.W.; Beintema, J.J.
 Biochem. J. 157, 317-323, 1976
 A:Title: The amino acid sequence of pike whale (lesser rorqual) pancreatic ribonuclease.
 A:Reference number: A00818; MUID:76277855; PMID:962870
 A:Accession: A00818
 A:Molecule type: protein
 A:Residues: 1-124 <EMM>
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F:12,41,119/Active site: His, Lys, His #status predicted
 F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F:76/Binding site: carbohydrate (Asn) (covalent) (partial) #status experimental

Query Match 20.0%; Score 116; DB 1; Length 124;
 Best Local Similarity 26.9%; Pred. No. 0.00013;
 Matches 32; Conservative 16; Mismatches 43; Indels 28; Gaps 6;

```

Best Local Similarity   28.2%; Pred. No. 0.00043;
Matches    33; Conservative    19; Mismatches    37; Indels    28; Gaps

Qy      6 FQKKHL-----TNRDVCNNIL-STNLF--HCKDKNTFIYSRPEPVKAICKGIIASKNV 57
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db      8 FQRQHIDSGSPSTPNFYCNAMMKGRNMTQERCKPVTVFHEPLADVQAVC----FQKNV 63
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

Qy     58 -----LTTFFYSLSDCVTSR-----PCKYKLKSTNTFCVTCENQ--APVHF 98
       :||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db     64 PCKNGOSNCYESTSNHHITDCRLTNSKPDPCLYTSQEKSIIIVACBGNPYVPVHF 120
       :||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

RESULT 13
B43825
angiotenin - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S29833; B43825
R;Bond, M.D.; Strydom, D.J.; Vallee, B.L.
Biochim. Biophys. Acta 1162, 177-186, 1993
A;Title: Characterization and sequencing of rabbit, pig and mouse angiotensins
A;Reference number: S29833; MUID:93192291; PMID:8448182
A;Accession: S29833
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-125 <BON>
A;Note: submitted to the Protein Sequence Database, December 1992
C;Superfamily: pancreatic ribonuclease
C;Keywords: pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match          19.0%; Score 110; DB 1; Length 125;
Best Local Similarity 29.9%; Pred. No. 0.00053;
Matches    23; Conservative    13; Mismatches    33; Indels    8; Gaps

Qy      30 CKDKNTFIYSRPEPVKAICK---GIISKV-LTTFFYSLDCNITS-----RPCKYLKK 81
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db      39 CDDTNTFVHGKGISIKDVCEKXNGPKYGNFRISKSFQVTTCKHVGGSPWPPCYRATS 98
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

Qy      82 STNTFCVTCENQAPVHF 98
       :|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db      99 GSRNIVIACENGLPVHF 115
       :|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

RESULT 14
NRNY
pancreatic ribonuclease (EC 3.1.27.5) - capybara
N;Alternate names: RNase A, RNase A
C;Species: Hydrochaeris hydrochaeris (capybara, carpincho)
C;Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 29-Oct-1999
C;Accession: A00824
R;Beintema, J.J.; Neuteboom, B.
J. Mol. Evol. 19, 145-152, 1983
A;Title: Origin of the duplicated ribonuclease gene in guinea-pig: comparison
A;Reference number: A92957; MUID:87036770; PMID:6571219
A;Accession: A00824
A;Molecule type: protein
A;Residues: 1-128 <BEI>
C;Superfamily: pancreatic ribonuclease
C;Keywords: hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted

Query Match          19.0%; Score 110; DB 1; Length 128;
Best Local Similarity 25.2%; Pred. No. 0.00054;
Matches    29; Conservative    22; Mismatches    44; Indels    20; Gaps

Qy      4 LTQKKHL-----TNRDVDCCNILSTNFL--HCKDKNTFIYSRPEPVKAIC--KGIIA 53
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db      6 MKIQRHVDSEGSSSSNANYCNEMVRKMOTDRCKPNTVFHEPLADVQAVCFQKNVPC 65
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

Qy     54 SKNLVLTFFY-----LSDCNVTSR-----PCKYKLKSTNTFCVTCENQ--APVHF 98
       ::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

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Db      66 KNGQTCYQSYSSMHLTDCRVTNSKFPDCSYRTQAKSIVVACEGNLYVPVHF 120

RESULT 15
I52489
ribonuclease 4 (EC 3.1.1.-) precursor - human
N:Alternate names: RNase 4
C:Species: Homo sapiens (man)
C:Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 22-Jun-1999
C:Accession: I52489; S60163; S38272
R:Seno, M.; Futami, J.; Tsushima, Y.; Akutagawa, K.; Kosaka, M.; Tada, H.; Yamada, H.
Biochim. Biophys. Acta 1261, 424-426, 1995
A:Title: Molecular cloning and expression of human ribonuclease 4 cDNA.
A:Reference number: I52489; MUID:95260866; PMID:7742370
A:Accession: I52489
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-147 <RES>
A:Cross-references: GB:D37931; NID:g976228; PIDN:BAA07150.1; PID:g976229
Nucleic Acids Res. 23, 4290-4295, 1995
A:Title: Human ribonuclease 4 (RNase 4): coding sequence, chromosomal localization and
A:Reference number: S60163; MUID:96091174; PMID:7501448
A:Accession: S60163
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 29-53, 'D', 55-147 <ROS>
A:Cross-references: EMBL:D36775; NID:g1040977; PIDN:AAA96750.1; PID:g1040978
Eur. J. Biochem. 217, 401-410, 1993
A:Title: The amino acid sequence of human ribonuclease 4, a highly conserved ribonucleas
A:Reference number: S38272; MUID:94039064; PMID:8223579
A:Accession: S38272
A:Molecule type: protein
A:Residues: 29-147 <ZHO>
C:Genetics:
A:Gene: GDB:RNASE4
A:Cross-references: GDB:6108046; OMIM:601030
A:Map position: 14q24-q31
A:Introns: #status absent
C:Superfamily: pancreatic ribonuclease
C:Keywords: hydrolase
F:40,68,144/Active site: His, Lys, His #status predicted
F:53-109,67-120,85-135,92-99/Disulfide bonds: #status predicted

Query Match      18.7%; Score 108.5; DB 2; Length 147;
Best Local Similarity 31.2%; Pred. No. 0.00088;
Matches 35; Conservative 16; Mismatches 44; Indels 17; Gaps 7;

QY      6 FQKKHL-----TNRDVDCNNIL---STNLFHCKDKNTFIYSRPEPVKAICK--GIIASKN 56
Db      36 FLRQHVHPEETGGSDRYCNLMQMQRKMTLYHCCKRENTFIHEDIWNIRSICTTNIQCKNG 95

QY      57 VLTTFE--FYLSDCNVT--SRP--CKYKLKKTNTFCVTCEN--QAPVHFVG 100
Db      96 KMNCHGVVVKYTDCTDGSSRAPNCRKRIALASTRRVVIACGNPQVPVHFDG 147

```

Search completed: May 7, 2004, 21:54:53
Job time : 9.43686 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:30:40 ; Search time 5.25351 Seconds
(without alignments)
1030.796 Million cell updates/sec

Title: US-09-961-400-4

Perfect score: 579

Sequence: 1 QDWLTFOKKHLNTRDVCN.....TFCVTCNQAPVHFVGVGHC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	547	94.5	104	1	RN30_RANPI
2	286	49.4	133	1	RN30_RANCA
3	279.5	48.3	111	1	LEGS_RANJA
4	263.5	45.5	111	1	RNPL_RANCA
5	142	24.5	119	1	RNP_IGUIG
6	124.5	21.5	145	1	ANGR_MOUSE
7	124.5	21.5	145	1	ANGR_MOUSE
8	123	21.2	124	1	ANGI_CERAE
9	120	20.7	148	1	RNP_GALMU
10	118	20.4	128	1	ANGI_BOVIN
11	117	20.2	128	1	RNP_CAVPO
12	116	20.0	124	1	RNP_MYOCO
13	115.5	19.9	146	1	RNP_BALAC
14	112.5	19.4	145	1	ANGI_MACMU
15	112.5	19.4	146	1	ANGI_MOUSE
16	111	19.2	128	1	ANGI_RAPHA
17	110.5	19.1	147	1	RNP_PROGU
18	110.5	19.1	155	1	ECF4_MOUSE
19	110	19.0	125	1	ANGI_RABIT
20	110	19.0	128	1	RNP_HYDHY
21	110	19.0	146	1	ANGI_MIOTA
22	108.5	18.7	147	1	RNS4_HUMAN
23	108	18.7	124	1	RNP_CHIBR
24	108	18.7	150	1	RNP_BOVIN
25	107	18.5	156	1	ECF3_MOUSE
26	106	18.3	147	1	ANGI_HUMAN
27	106	18.3	147	1	ANGI_PANTR
28	105	18.1	124	1	RNP_AEFME
29	105	18.1	124	1	RNP_ANTAM
30	105	18.1	124	1	RNP_HIPAM
31	105	18.1	124	1	RNP_SHEEP
32	104.5	18.0	123	1	ANGI_PIG
33	104.5	18.0	150	1	RNS6_SAISC

34	104	18.0	124	1	RNP_BUBBU	P00657 bubalus bub
35	104	18.0	124	1	RNP_CONTA	P00660 connochaete
36	104	18.0	124	1	RNP_GAZTH	P07848 gazella tho
37	103	17.8	123	1	ANG2_BOVIN	P08929 bos taurus
38	103	17.8	124	1	RNP_GIRCA	P00662 giraiffa cam
39	103	17.8	124	1	RNP_PIG	P00671 sus scrofa
40	103	17.8	128	1	RNP_HYSCR	P04060 hystrix cri
41	103	17.8	156	1	RNP_MYOGL	Q9wus1 myoxus glis
42	103	17.8	167	1	RNR_BOVIN	P39873 bos taurus
43	102.5	17.7	119	1	RNS4_BOVIN	P15467 bos taurus
44	102	17.6	128	1	RNP_HORSE	P00674 equus cabal
45	102	17.6	146	1	ANGI_SAGOE	Q8wn62 saguinus oe

ALIGNMENTS

RESULT 1					
RN30_RANPI					
ID	RN30_RANPI	STANDARD;	PRT;	104 AA.	
AC	P22069;				
DT	01-AUG-1991	(Rel. 19, Created)			
DT	01-FEB-1994	(Rel. 28, Last sequence update)			
DT	28-FEB-2003	(Rel. 41, Last annotation update)			
DE	P-30 protein (EC 3.1.27.-) (Onconase).				
OS	Rana pipiens (Northern leopard frog).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.				
OX	NCBI_TaxID=8404;				
RN	[1]				
RP	SEQUENCE.				
RC	TISSUE=Embryo;				
RX	MEDLINE=91093131; PubMed=1985896;				
RA	Ardelt W., Mikulski S.M., Shogen K.;				
RT	"Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and early embryos. Homology to pancreatic ribonucleases.";				
RL	J. Biol. Chem. 266:245-251 (1991).				
RN	[2]				
RP	3D-STRUCTURE MODELING.				
RX	MEDLINE=93066156; PubMed=1438177;				
RA	Mosimann S.C., Johns K.L., Ardelt W., Mikulski S.M., Shogen K.,				
RA	James M.N.G.;				
RT	"Comparative molecular modeling and crystallization of P-30 protein: a novel antitumor protein of Rana pipiens oocytes and early embryos.";				
RL	Proteins 14:392-400 (1992).				
RN	[3]				
RP	X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).				
RX	MEDLINE=94166079; PubMed=8120892;				
RA	Mosimann S.C., Ardelt W., James M.N.G.;				
RT	"Refined 1.7 A X-ray crystallographic structure of P-30 protein, an amphibian ribonuclease with anti-tumor activity.";				
RL	J. Mol. Biol. 236:1141-1153 (1994).				
CC	!- FUNCTION: Basic protein with antiproliferative/cytotoxic activity against several tumor cell lines in vitro, as well as antitumor in vivo. It exhibits a ribonuclease-like activity against high molecular weight ribosomal RNA.				
CC	!- DEVELOPMENTAL STAGE: Early embryos (up to four blastomere stage).				
CC	!- SIMILARITY: Belongs to the pancreatic ribonuclease family.				
DR	PDB; 1ONC; 31-JAN-94.				
DR	InterPro; IPR001427; RNaseA.				
DR	Pfam; PF00074; rnaaseA; 1.				
DR	ProDom; PD000535; RNaseA; 1.				
DR	SMART; SM00092; RNase Pc; 1.				
DR	PROSITE; PS00127; RNASE_PANCREATIC; 1.				
KW	Hydrolase; Nuclease; Endonuclease; 3D-structure; Pyrolidone carboxylic acid.				
FT	MOD_RES	1	10		PYROLIDONE CARBOXYLIC ACID.
FT	ACT_SITE	10	31		
FT	ACT_SITE	97	97		
FT	DISULFID	19	68		
FT	DISULFID	30	75		

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FT DISULFID 48 90
FT DISULFID 87 104
FT HELIX 3 10
FT STRAND 11 12
FT HELIX 19 22
FT TURN 23 24
FT TURN 26 30
FT STRAND 33 38
FT HELIX 41 45
FT HELIX 46 48
FT TURN 49 50
FT STRAND 55 58
FT STRAND 63 70
FT TURN 74 75
FT STRAND 77 84
FT STRAND 86 91
FT TURN 92 93
FT STRAND 94 101
SQ SEQUENCE 104 AA; 11845 MW; 22A753C2F9E566B4 CRC64;

Query Match 94.5%; Score 547; DB 1; Length 104;
Best Local Similarity 94.2%; Pred. No. 5.5e-52;
Matches 98; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 1 QDWLTPQKKHLNTRDVCNNILSTNLFCKDKQNTFYISRPPEVKAICKGIASKNVLTT 60
Db 1 QDWLTPQKKHLNTRDVCNNILSTNLFCKDKQNTFYISRPPEVKAICKGIASKNVLTT 60
QY 61 FFYLSDCNVTSRPCYKLUKSTNTFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYLSDCNVTSRPCYKLUKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 2
RNPO RANCA STANDARD; PRT; 133 AA.
AC P11916; Q9PWR7;
DT 01-OCT-1989 (Rel. 12, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Ribonuclease, oocytes precursor (EC 3.1.27.-) (RC-RNase) (Sialic acid-binding lectin) (SBL-C).
GN RCR.
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.
OK NCBI_TaxID=8400;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=98165825; PubMed=9497370;
RA Huang H.C., Wang S.C., Leu Y.J., Lu S.C., Liao Y.D.;
RT "The Rana catesbeiana rcr gene encoding a cytotoxic ribonuclease.
RT Tissue distribution, cloning, purification, cytotoxicity, and active
RT residues for RNase activity.";
RL J. Biol. Chem. 273:6395-6401(1998).
RN [2]
RP SEQUENCE OF 23-133.
RC TISSUE=Egg;
RX MEDLINE=87299649; PubMed=3304421;
RA Titani K., Takio K., Kuwada M., Nitta K., Sakakibara F., Kawauchi H.,
RA Takayanagi G., Hakomori S.;
RT "Amino acid sequence of sialic acid binding lectin from frog (Rana
RT catesbeiana) eggs.";
RL Biochemistry 26:2189-2194(1987).
RN [3]
RP CHARACTERIZATION, AND SEQUENCE OF 81-101.
RX MEDLINE=92220613; PubMed=1373237;
RA Liao Y.-D.;
RT "A pyrimidine-guanine sequence-specific ribonuclease from Rana
RT catesbeiana (bullfrog) oocytes.";
RL Nucleic Acids Res. 20:1371-1377(1992).
RN [4]

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RP CHARACTERIZATION.
RC TISSUE=Egg;
RX MEDLINE=93192604; PubMed=8448385;
RA Nitta K., Oyama F., Oyama R., Sekiguchi K., Kawauchi H.,
RA Takayanagi Y., Hakomori S., Titani K.;
RT "Ribonuclease activity of sialic acid-binding lectin from Rana
RT catesbeiana eggs.";
RL Glycobiology 3:37-45(1993).
RN [5]
RP STRUCTURE BY NMR OF 23-133.
RX MEDLINE=98437383; PubMed=9761686;
RA Chang C.-F., Chen C., Chen Y.-C., Hom K., Huang R.-F., Huang T.H.;
RT "The solution structure of a cytotoxic ribonuclease from the oocytes
RT of Rana catesbeiana (bullfrog).";
RL J. Mol. Biol. 283:231-244(1998).
CC -!- FUNCTION: Preferentially cleaves single-stranded RNA at pyrimidine
CC residues with a 3' flanking guanine. Hydrolyzes poly(U) and poly(C)
CC as substrates, and prefers the former. The S-lectins in frog eggs
CC may be involved in the fertilization and development of the frog
CC embryo. This lectin agglutinates various animal cells, including
CC normal lymphocytes, erythrocytes, and fibroblasts of animal and
CC human origin. It is cytotoxic against several tumor cells.
CC -!- SUBUNIT: Monomer.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
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CC or send an email to license@sib-sib.ch).
CC
CC EMBL; AF039104; AAD10702.1; -.
DR PIR; A27121; A27121.
DR PDB; 1BC4; 28-OCT-98.
DR PDB; 1M07; 21-JAN-03.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnaaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase Pc; 1.
DR PROSITE; PS00127; RNASE PANCREATIC; 1.
DR Hydrolase; Nuclease; Endonuclease; Sialic acid; Lectin; 3D-structure;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 22
FT CHAIN 23 133 RIBONUCLEASE, OOCYTES.
FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 32 32
FT ACT_SITE 57 57
FT ACT_SITE 125 125
FT DISULFID 41 93
FT DISULFID 56 103
FT DISULFID 74 118
FT DISULFID 115 132
FT HELIX 25 32
FT HELIX 41 45
FT TURN 48 49
FT STRAND 59 63
FT HELIX 67 73
FT TURN 74 74
FT STRAND 79 84
FT STRAND 90 95
FT STRAND 105 110
FT STRAND 114 119
FT TURN 120 121
FT STRAND 122 129
SQ SEQUENCE 133 AA; 14762 MW; A7D62594F7D16F0C CRC64;

Query Match 49.4%; Score 286; DB 1; Length 133;
Best Local Similarity 48.6%; Pred. No. 7.1e-24;
Matches 54; Conservative 16; Mismatches 33; Indels 8; Gaps 3;

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QY 1 QDWLTFOKKHLTNRDVCNNILSTNLF----HCKDKNTFYSRPEPVKAICKGIIASKN 56
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db 23 QNWATFOKKHLIINTPIINCNTIMDNIIYVGQCKRVNTFISSATTVKAICTGVI-NMN 81
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

QY 57 VLTTFEFLSDC---NVTSRCKYKLKSKSTFTVCTCENQAPVHFVGHC 104
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db 82 VLSITRFLQNTCTRTSITPRCPYSSRTETNYICVKCENQYVHFAGIGRC 132
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

RESULT 3
LECS_RANJA
ID LECR_RANJA STANDARD; PRT; 111 AA.
AC P18839;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Sialic acid-binding lectin (EC 3.1.27.-).
OS Rana japonica (Japanese reddish frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX NCBI_TaxID=8402;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Egg;
RX MEDLINE=91035319; PubMed=2229005;
RA Kamiya Y., Oyama F., Oyama R., Sakakibara F., Nitta K., Kawauchi H.,
RA Takayanagi Y., Titani K.;
RT "Amino acid sequence of a lectin from Japanese frog (Rana japonica)
   eggs.";
RL J. Biochem. 108:139-143(1990).
CC -!- FUNCTION: The S-lectins in frog eggs may be involved in the
CC fertilization and development of the frog embryo. This lectin
CC preferentially agglutinate a large variety of tumor cells, but it
CC does not agglutinate non-transformed cells and erythrocytes.
CC -!- SUBUNIT: Monomer.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; JX0120; JX0120.
DR HSSP; P11916; IBC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Sialic acid; Lectin;
KW Pyridolone carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 35 35 BY SIMILARITY.
FT ACT_SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12326 MW; FDEBDDF3834ED679 CRC64;

Query Match 48.3%; Score 279.5; DB 1; Length 111;
Best Local Similarity 44.1%; Pred. No. 2.9e-23;
Matches 49; Conservative 19; Mismatches 36; Indels 7; Gaps 2;

QY 1 QDWLTFOKKHLTNRDVCNNILSTNLF----HCKDKNTFYSRPEPVKAICKGIIASKN 56
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db 1 QNWAFQEKHPINTSNINCNTIMDKSIYIVGQCKERNFTFISSATTVKAICSGASTNRN 60
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

QY 57 VLTTFEFLSDC---NVTSRCKYKLKSKSTFTVCTCENQAPVHFVGHC 104
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db 61 VLSITRFLQNTCTRSATAPRCYPYNSRTETNYICVKCENRFLPVHFAGIGRC 111
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

RESULT 4
RNPL_RANCA
ID RNPL_RANCA STANDARD; PRT; 111 AA.
AC P14626;

```

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DT 01-APR-1990 (Rel. 14, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease, liver (EC 3.1.27.5).
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP SEQUENCE.
RC TISSUE=Liver;
RX MEDLINE=90130374; PubMed=2613682;
RA Nitta R., Katayama N., Okabe Y., Iwama M., Watanabe H., Abe Y.,
RA Okazaki T., Ohgi K., Irie M.;
RT "Primary structure of a ribonuclease from bullfrog (Rana catesbeiana)
   liver.";
RL J. Biochem. 106:729-735(1989).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; JX0085; JX0085.
DR HSSP; P11916; IBC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Pyridolone carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 35 35 BY SIMILARITY.
FT ACT_SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12461 MW; D64BA72456C10788 CRC64;

Query Match 45.5%; Score 263.5; DB 1; Length 111;
Best Local Similarity 42.3%; Pred. No. 1.5e-21;
Matches 47; Conservative 19; Mismatches 38; Indels 7; Gaps 2;

QY 1 QDWLTFOKKHLTNRDVCNNILSTNLF----HCKDKNTFYSRPEPVKAICKGIIASKN 56
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db 1 QNWAFQEKHRTSSIDCINTIMDKAIYIVGQCKERNFTFISSEDNVKAICSGVSPDRK 60
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

QY 57 VLTTFEFLSDC---NVTSRCKYKLKSKSTFTVCTCENQAPVHFVGHC 104
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:
Db 61 ELSTTSFKLNTCIRDSITPRCPYHPSPDNNKICVKCEKQLPVHFVGIGKC 111
   ||:||||:||||:||||:||||:||||:||||:||||:||||:||||:||||:

RESULT 5
RNP_IGUITG
ID RNP_IGUITG STANDARD; PRT; 119 AA.
AC P80287;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
OS Iguana iguana (Common iguana).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Iguania; Iguanidae; Iguaninae; Iguana.
OX NCBI_TaxID=8517;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=94139745; PubMed=8307028;
RA Zhao W., Beintema J.J., Hofsteenge J.;
RT "The amino acid sequence of iguana (Iguana iguana) pancreatic
   ribonuclease.";
RL Eur. J. Biochem. 219:641-646(1994).

```

CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
 CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
 CC with 2',3'-cyclic phosphate intermediates.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Pancreas.
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 DR PIR; S41111, S41111.
 DR HSP; P00656; IL5Q.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; rnasea; 1.
 DR PRINTS; PR00794; RIBONUCLEASE.
 DR ProDom; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNase_Pc; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 DR KW Hydrolyase; Nuclease; Endonuclease; Pyridoxal phosphate carboxylic acid.
 FT MOD_RES 1 PYRROLIDONE CARBOXYLIC ACID.
 FT DISULFID 25 80 BY SIMILARITY.
 FT DISULFID 39 91 BY SIMILARITY.
 FT DISULFID 57 106 BY SIMILARITY.
 FT ACT_SITE 10 10 BY SIMILARITY.
 FT ACT_SITE 40 40 BY SIMILARITY.
 FT ACT_SITE 113 113 BY SIMILARITY.
 SQ SEQUENCE 119 AA; 13324 MW; 6072F5B57B15BD5A CRC64;
 Query Match 24.5%; Score 142; DB 1; Length 119;
 Best Local Similarity 29.8%; Pred. No. 1.8e-08;
 Matches 34; Conservative 19; Mismatches 45; Indels 16; Gaps 5;
 QY 1 QDWLTPQKHL-----TNRDVCNNIL---STNLFHCKNTFYSPPEPKAIC--K 49
 DB 1 QDWSSFNKHIDYPETASNPAYCDLMQRRNLNPTKCKRNTFVHASPSEIQVCGSG 60
 QY 50 GIISKNVLTTFE-FYLSDC-----NVTSPCKYKLLKSTNFTCVTCENQAPVHF 98
 DB 61 GTHYEDNLYDSNESFLDTCXNVGTPAPSSCKYNGTPGTRKRIACENNQAPVHF 114
 RESULT 6
 ANGR_MOUSE
 ID ANGR_MOUSE STANDARD; PRT; 145 AA.
 AC Q6438;
 DT 01-NOV-1997 (Rel. 35, Created)
 DT 01-NOV-1997 (Rel. 35, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Angiogenin-related protein precursor.
 GN ANGRP.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=129; TISSUE=Liver;
 RX MEDLINE=96079109; PubMed=8530072;
 RA Brown W.E., Noble V., Subramanian V., Shapiro R.;
 RT "The mouse angiogenin gene family: structures of an angiogenin-related
 RL protein gene and two pseudogenes";
 RL Genomics 29:200-206(1995).
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
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 CC EMBL; U22519; AAA91367.1; -.
 DR HSP; P03950; 1A4V.
 DR MGD; MGI:104984; AngRP.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; rnasea; 1.

DR PRINTS; PR00794; RIBONUCLEASE.
 DR ProDom; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNase_Pc; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 KW Signal; Hydrolase; Nuclease; Endonuclease;
 KW Pyridoxal phosphate carboxylic acid.
 FT SIGNAL 1 24 POTENTIAL.
 FT CHAIN 25 145 PYRROLIDONE CARBOXYLIC ACID (BY
 FT MOD_RES 25 25 SIMILARITY).
 FT ACT_SITE 37 37 BY SIMILARITY.
 FT ACT_SITE 64 64 BY SIMILARITY.
 FT ACT_SITE 137 137 BY SIMILARITY.
 FT DISULFID 50 104 BY SIMILARITY.
 FT DISULFID 63 115 BY SIMILARITY.
 FT DISULFID 81 130 BY SIMILARITY.
 SQ SEQUENCE 145 AA; 16612 MW; 29A6EB814429C4AD CRC64;
 Query Match 21.5%; Score 124.5; DB 1; Length 145;
 Best Local Similarity 36.8%; Pred. No. 1.7e-06;
 Matches 28; Conservative 11; Mismatches 30; Indels 7; Gaps 3;
 QY 30 CKDKNTFYSPPEPKAIC--KGIIASKNV-LTTFEYLSDCNVTSR---PKYKLLKKS 82
 DB 63 CKDQNTFIHDTKNNIKAIGKKGSPVGRNLRISKSRFQVTTCTHKGRSPRPCCRYRASKG 122
 QY 83 TWTFCVTCENQAPVHF 98
 DB 123 FRYIIIGCENGWVHF 138
 RESULT 7
 ANGL_CERAE
 ID ANGL_CERAE STANDARD; PRT; 146 AA.
 AC Q8WNE6;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Angiogenin precursor (EC 3.1.27.-) (Ribonuclease 5) (RNase 5).
 GN ANG OR RNASE5.
 OS Cercopithecus aethiops (Green monkey) (Grivet).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
 OC Cercopithecinae; Cercopithecus.
 OX NCBI_TaxID=9534;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21918422; PubMed=11919285;
 RA Zhang J., Rosenberg H.F.;
 RT "Diversifying selection of the tumor-growth promoter angiogenin in
 RL primate evolution";
 RL Mol. Biol. Evol. 19:438-445(2002).
 CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds
 CC to actin on the surface of endothelial cells; once bound,
 CC angiogenin is endocytosed and translocated to the nucleus, thereby
 CC promoting the endothelial invasiveness necessary for blood vessel
 CC formation. Angiogenin induces vascularization of normal and
 CC malignant tissues. Abolishes protein synthesis by specifically
 CC hydrolyzing cellular tRNAs (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
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 CC or send an email to license@isb-sib.ch).
 CC EMBL; AF441664; AAL61646.1; -.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; rnasea; 1.

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DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase P; 1.
DR PROSITE; PS00127; RNASE PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Angiogenesis;
KW Protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24 BY SIMILARITY.
FT CHAIN 25 146 PYRROLIDONE CARBOXYLIC ACID (BY
FT MOD_RES 25 25 ANGIOGENIN.
FT ACT_SITE 37 37 BY SIMILARITY.
FT ACT_SITE 64 64 BY SIMILARITY.
FT ACT_SITE 138 138 BY SIMILARITY.
FT DISULFID 50 105 BY SIMILARITY.
FT DISULFID 63 116 BY SIMILARITY.
FT DISULFID 81 131 BY SIMILARITY.
SQ SEQUENCE 146 AA; 16444 MW; 27860112E95B8DF9 CRC64;

Query Match
Best Local Similarity 21.5%; Score 124.5; DB 1; Length 146;
Matches 30; Conservative 17; Mismatches 31; Indels 23; Gaps 4;

QY 5 TFOCKHLTNTROVDCNNILSTLNFHCKDKNTFTYSRPEPVKAIC---KGIASKNV-LTT 60
DB 53 TWRRHLTSP-----CKDINTFIHGNRHKAICGDENGNPYGENLRISK 97
QY 61 FFFYLSDCNVTS-----RPOCKYKLKSTNTFCVTCENQAPVH 97
DB 98 SPFQVTCNLRGSGRPPOCYRATRGSRNIVVGCENGLPVH 138

RESULT 8
RNP_GALMU
ID -RNP_GALMU STANDARD; PRT; 124 AA.
AC P00680;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase A).
GN RNASE1 OR RNS1.
OS Galea musteloides (Cuis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathi; Caviidae; Galea.
OX NCBI_TaxID=10146;
RN [1]
RP SEQUENCE.
RX MEDLINE=87036770; PubMed=6571219;
RA Beintema J.J., Neuteboom B.;
RT "Origin of the duplicated ribonuclease gene in guinea-pig: comparison
RT of the amino acid sequences with those of two close relatives:
RT capybara and cuis ribonuclease.";
RL J. Mol. Evol. 19:145-152(1983).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Pancreas.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; A00827; NRUI.
DR HSGP; P00656; 1SRN.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase P; 1.
DR PROSITE; PS00127; RNASE PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease.
FT DISULFID 26 84 BY SIMILARITY.
FT DISULFID 40 95 BY SIMILARITY.
FT DISULFID 58 110 BY SIMILARITY.
FT DISULFID 65 72 BY SIMILARITY.
FT ACT_SITE 12 12 BY SIMILARITY.
FT ACT_SITE 41 41 BY SIMILARITY.

FT ACT_SITE 119 119 BY SIMILARITY.
FT VARIANT 1 1 MISSING (IN 1/3 OF THE MOLECULES).
SQ SEQUENCE 124 AA; 13870 MW; 609C7E251A7BBA25 CRC64;

Query Match
Best Local Similarity 21.2%; Score 123; DB 1; Length 124;
Matches 33; Conservative 21; Mismatches 39; Indels 24; Gaps 7;

QY 4 LTFQCKHL-----TNTRDVDCNNIL-----STNLFHCKDKNTFTYSRPEPVKAIC--KGI 51
DB 6 MAFQGHMDSGDHPDNTN--YCNEVMVRRSMTQGRKPVNTFVHEPLEAVQVCSQKNV 63
QY 52 IASKNVLTTFEY----LSDCNVTSRP-----CKYKLKSTNTFCVTCEN--QAPVHF 98
DB 64 PCKNGQTCYQSHSSMRITDCRVTSSKYPNCYSRYMTQAKXIIVACEGTSPVPHF 120

RESULT 9
ANGI_BOVIN
ID ANGI_BOVIN STANDARD; PRT; 148 AA.
AC P10152; O9GKP9;
DT 01-MAR-1989 (Rel. 10, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Angiogenin-1 precursor (EC 3.1.27.-).
GN ANGI OR ANG.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Chang S.-I.;
RT "Cloning, sequencing, and expression of bovine angiogenin.";
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE OF 24-148.
RC TISSUE=Milk;
RX MEDLINE=89065101; PubMed=3197838;
RA Maes P., Damart D., Rommens C., Montreuil J., Spik G., Tartar A.;
RT "The complete amino acid sequence of bovine milk angiogenin.";
RL FEBS Lett. 241:41-45(1988).
RN [3]
RP SEQUENCE OF 24-148.
RC TISSUE=Plasma;
RX MEDLINE=89375344; PubMed=2775757;
RA Bond M.D., Strydom D.J.;
RT "Amino acid sequence of bovine angiogenin.";
RL Biochemistry 28:6110-6113(1989).
RN [4]
RP CHARACTERIZATION, AND SEQUENCE OF 25-55.
RC TISSUE=Plasma;
RX MEDLINE=89118214; PubMed=3064806;
RA Bond M.D., Vallee B.L.;
RT "Isolation of bovine angiogenin using a placental ribonuclease
RT inhibitor binding assay.";
RL Biochemistry 27:6282-6287(1988).
RN [5]
RP X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS).
RX MEDLINE=95224057; PubMed=7708754;
RA Acharya K.R., Shapiro R., Riordan J.F., Vallee B.L.;
RT "Crystal structure of bovine angiogenin at 1.5-A resolution.";
RL Proc. Natl. Acad. Sci. U.S.A. 92:2949-2953(1995).
RN [6]
RP STRUCTURE BY NMR.
RX MEDLINE=96280645; PubMed=8688423;
RA Leguin O., Albaret C., Bontems F., Spik G., Lallemand J.-Y.;
RT "Solution structure of bovine angiogenin by 1H nuclear magnetic
RT resonance spectroscopy.";
RL Biochemistry 35:8870-8880(1996).
CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds

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CC to actin on the surface of endothelial cells; once bound,
CC angiotensin is endocytosed and translocated to the nucleus, thereby
CC promoting the endothelial invasiveness necessary for blood vessel
CC formation. Angiotensin induces vascularization of normal and
CC malignant tissues. Abolishes protein synthesis by specifically
CC hydrolyzing cellular tRNAs. Binds tightly to placental
CC ribonuclease inhibitor and has very low ribonuclease activity.
CC
CC -!- SUBCELLULAR LOCATION: Secreted.
CC
CC -!- TISSUE SPECIFICITY: Serum and milk.
CC
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC
CC -----
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CC or send an email to license@isb-sib.ch).
CC
CC -----
CC EMBL; AF135124; AAG47631.1; -.
CC
CC EDB; IAGI; 03-APR-96.
CC
CC FDB; IGIO; 07-DEC-96.
CC
CC InterPro; IPR001427; RNaseA.
CC Pfam; PF00074; rnaseA; 1.
CC PRINTS; PR00794; RIBONUCLEASE.
CC ProDom; PD000535; RNaseA; 1.
CC SMART; SM00092; RNase_Pc; 1.
CC PROSITE; PS00127; RNASE_PANCREATIC; 1.
CC
CC KW Hydrolase; Nuclease; Endonuclease; Angiogenesis;
CC KW Protein synthesis inhibitor; Signal; 3D-structure.
CC
CC FT SIGNAL 1 23
CC FT CHAIN 24 148 ANGIOENIN-1.
CC FT ACT_SITE 27 37
CC FT ACT_SITE 64 64
CC FT ACT_SITE 138 138
CC FT DISULFID 50 105
CC FT DISULFID 63 116
CC FT DISULFID 81 131
CC
CC SQ SEQUENCE 148 AA; 16969 MW; B7999124CBB523DD CRC64;
CC
CC Query Match 20.7%; Score 120; DB 1; Length 148;
CC Best Local Similarity 32.7%; Pred. No. 5.2e-06;
CC Matches 32; Conservative 14; Mismatches 32; Indels 20; Gaps 5;
CC
CC QY 16 DVDCNNILTNLF--HCKDKNTFIYSRPEPVKAICK-----GIIASKNVLTTFEY 64
CC DB 47 DEYCFNNRRRLTRPCKDRNTFIHGKNDIKACEDRNGQPYRGDLRISK-----EFQ 101
CC
CC QY 65 LSDC---NVTSR--PCKYKLLKSTNTFCVTCENQAPVHF 98
CC DB 102 IITCKHGSSRPCHYGATEDSRVIVGCGNLPLVHF 139
CC
CC RESULT 10
CC RNPB_CAVPO
CC ID_ RNPB_CAVPO STANDARD; PRT; 128 AA.
CC AC P00679;
CC DT 21-JUL-1986 (Rel. 01, Created)
CC DT 21-JUL-1986 (Rel. 01, Last sequence update)
CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
CC DE Ribonuclease pancreatic B (EC 3.1.27.5) (RNase IB).
CC OS Cavia porcellus (Guinea pig).
CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
CC OX NCBI_TaxID=10141;
CC RN [1]
CC RP SEQUENCE.
CC RC TISSUE=Pancreas;
CC RX MEDLINE=77185023; PubMed=862624;
CC RA van den Berg A., van den Hende-Timmer L., Hofsteenge J., Gaastra W.,
CC RA Beintema J.J.;
CC RT "Guinea-pig pancreatic ribonucleases. Isolation, properties, primary
CC structure and glycosylation."

```

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RL Eur. J. Biochem. 75:91-100(1977).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Pancreas.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC
CC PIR; A00826; NRGPB.
CC HSSP; P00656; ILSRN.
CC InterPro; IPR001427; RNaseA.
CC Pfam; PF00074; rnaseA; 1.
CC PRINTS; PR00794; RIBONUCLEASE.
CC ProDom; PD000535; RNaseA; 1.
CC SMART; SM00092; RNase_Pc; 1.
CC PROSITE; PS00127; RNASE_PANCREATIC; 1.
CC
CC KW Hydrolase; Nuclease; Endonuclease; Glycoprotein.
CC FT DISULFID 26 84 BY SIMILARITY.
CC FT DISULFID 40 95 BY SIMILARITY.
CC FT DISULFID 58 110 BY SIMILARITY.
CC FT DISULFID 65 72 BY SIMILARITY.
CC FT ACT_SITE 12 12 BY SIMILARITY.
CC FT ACT_SITE 41 41 BY SIMILARITY.
CC FT ACT_SITE 119 119 BY SIMILARITY.
CC FT CARBOHYD 21 21 N-LINKED (GLCNAC. .).
CC FT CARBOHYD 34 34 N-LINKED (GLCNAC. .).
CC FT VARIANT 64 64 L -> P.
CC
CC SQ SEQUENCE 128 AA; 14406 MW; A2P4101A1A33E93B CRC64;
CC
CC Query Match 20.4%; Score 118; DB 1; Length 128;
CC Best Local Similarity 25.9%; Pred. No. 7.2e-06;
CC Matches 30; Conservative 25; Mismatches 39; Indels 22; Gaps 7;
CC
CC QY 4 LTFQKKHL-----TNRDVCNNIL---STNLFHCKDKNTFIYSRPEPVKAICK--KGII 52
CC DB 6 MKFQHQHMDPEGSPSSNY-CNVMMIRNNTQGRCKPVNTFVHSLADVQAVCFQKNVL 64
CC
CC QY 53 ASKNVLTTFEY----LSDCNVTSRP-----CKYKLLKSTNTFCVTCENQ--APVHF 98
CC DB 65 CKNGQTCNCQSYSRMRITDCRVTSKSKFNCYSRMSQAKSIIVACEGDPYVPVHF 120
CC
CC RESULT 11
CC RNP_MYOCO
CC ID_ RNP_MYOCO STANDARD; PRT; 128 AA.
CC AC P00676;
CC DT 21-JUL-1986 (Rel. 01, Created)
CC DT 21-JUL-1986 (Rel. 01, Last sequence update)
CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
CC DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase A).
CC GN RNASE1 OR RNS1.
CC OS Myocastor coypus (Coypu) (Nutria).
CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC OC Mammalia; Eutheria; Rodentia; Hystricognathi; Myocastoridae;
CC OC Myocastor.
CC OX NCBI_TaxID=10157;
CC RN [1]
CC RP SEQUENCE.
CC RC TISSUE=Pancreas;
CC RX MEDLINE=77065676; PubMed=99896;
CC RA van den Berg A., van den Hende-Timmer L., Beintema J.J.;
CC RT "Isolation, properties and primary structure of coypu and chinchilla
CC pancreatic ribonuclease."
CC RL Biochim. Biophys. Acta 453:400-409(1976).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Pancreas.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC
CC PIR; A00822; NRCU.
CC HSSP; P00656; ILSRN.
CC InterPro; IPR001427; RNaseA.
CC Pfam; PF00074; rnaseA; 1.

```



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Query Match      19.9%; Score 115.5; DB 1; Length 146;
Best Local Similarity 27.7%; Pred. No. 1.5e-05;
Matches 28; Conservative 17; Mismatches 33; Indels 23; Gaps 4;

QY 5 TPQKHLNTRDVCNNILSTNLFCKKNTYISRPBPVKAIC---KGLIASKNV-LTT 60
DB 53 TMRRLHLSPTSP-----CKDINTFVHGNNRHITLGDENGSPYGGNLRIST 97
QY 61 PEFYLSDCNVTS---RPCKYKLKSTNTFCVTCENQAPVHF 97
DB 98 SFQVTTCKLRGSRPPQYRATGRSRNIVVGCENGLPVH 138

RESULT 14
ANGI MOUSE
ID ANGI_MOUSE STANDARD; PRT; 145 AA.
AC P21570;
DT 01-MAY-1991 (Rel. 18, Created)
DT 01-MAY-1991 (Rel. 18, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Angiogenin precursor (EC 3.1.27.-) (Ribonuclease 5) (RNase 5).
GN ANG.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91025023; PubMed=2222458;
RA Bond M.D., Vallee B.L.;
RT "Isolation and sequencing of mouse angiogenin DNA.";
RL Biochem. Biophys. Res. Commun. 171:988-995(1990).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=FVB/N; TISSUE=Liver;
RX MEDLINE=22388257; PubMed=12477932;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Cantinici P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalusz D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [3]
RP PARTIAL SEQUENCE.
RC TISSUE=Serum;
RX MEDLINE=93192291; PubMed=8448182;
RA Bond M.D., Strydom D.J., Vallee B.L.;
RT "Characterization and sequencing of rabbit, pig and mouse
angiogenins: discernment of functionally important residues and
regions.";
RL Biochim. Biophys. Acta 1162:177-186(1993).
CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds
to actin on the surface of endothelial cells; once bound,
thereby promoting the endothelial invasiveness necessary for blood vessel
formation. Angiogenin induces vascularization of normal and
malignant tissues. Abolishes protein synthesis by specifically
hydrolyzing cellular tRNAs.

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CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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the European Bioinformatics Institute. There are no restrictions on its
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or send an email to license@isb-sib.ch).
CC
CC EMBL; U22516; AAA91366.1; -.
CC EMBL; BC055355; AAH5355.1; -.
CC PIR; A35932; A35932.
CC HSP; P03950; LAAY.
CC MGD; MGI:88022; Ang.
CC InterPro; IPR001427; RNaseA.
CC Pfam; PF00074; RNaseA; 1.
CC PRINTS; P000794; RIBONUCLEASE.
CC ProDom; PD000535; RNaseA; 1.
CC SMART; SM00092; RNase_Pc; 1.
CC PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolyase; Nuclease; Endonuclease; Angiogenesis;
KW Protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24
FT CHAIN 25 145
FT MOD_RES 25 25
FT ANGIOENIN.
FT PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT ACT_SITE 37 37
FT ACT_SITE 64 64
FT ACT_SITE 137 137
FT DISULFID 50 104
FT DISULFID 63 115
FT DISULFID 81 130
FT SEQUENCE 145 AA; 16228 MW; 06944260BB764938 CRC64;
Query Match      19.4%; Score 112.5; DB 1; Length 145;
Best Local Similarity 34.2%; Pred. No. 3.2e-05;
Matches 26; Conservative 11; Mismatches 32; Indels 7; Gaps 3;
QY 30 CKDKNTFYISRPBPVKAIC---KGLIASKNV-LTTFFEVLSDCNVTS---RPCKYKLKKS 82
DB 63 CKDVNTFVHGNNRHITLGDENGSPYGGNLRIST 97
QY 83 TMTFCVTCENQAPVHF 98
DB 123 FRHVTACENGLPVHF 138
RESULT 15
ANGI PAPA
ID ANGI_PAPHA STANDARD; PRT; 146 AA.
AC Q8WNG4;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Angiogenin precursor (EC 3.1.27.-) (Ribonuclease 5) (RNase 5).
GN ANG OR RNASES.
OS Papio hamadryas (Hamadryas baboon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecinae; Papio.
OX NCBI_TaxID=9557;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21918422; PubMed=11919285;
RA Zhang J., Rosenberg H.F.;
RT "Diversifying selection of the tumor-growth promoter angiogenin in
primate evolution.";
RL Mol. Biol. Evol. 19:438-445(2002).
CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds
to actin on the surface of endothelial cells; once bound,
thereby promoting the endothelial invasiveness necessary for blood vessel
formation. Angiogenin induces vascularization of normal and
malignant tissues. Abolishes protein synthesis by specifically
hydrolyzing cellular tRNAs.

```



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CC promoting the endothelial invasiveness necessary for blood vessel
CC formation. Angiogenin induces vascularization of normal and
CC malignant tissues. Abolishes protein synthesis by specifically
CC hydrolyzing cellular tRNAs (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AF441666; AAL61648.1; -.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Angiogenesis;
KW Protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24 BY SIMILARITY.
FT CHAIN 25 146 ANGIOGENIN.
FT MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT ACT_SITE 37 37 BY SIMILARITY.
FT ACT_SITE 64 64 BY SIMILARITY.
FT ACT_SITE 138 138 BY SIMILARITY.
FT DISULFID 50 105 BY SIMILARITY.
FT DISULFID 63 116 BY SIMILARITY.
FT DISULFID 81 131 BY SIMILARITY.
SQ SEQUENCE 146 AA; 16432 MW; A4C3CD1482370FE CRC64;
Query Match 19.4%; Score 112.5; DB 1; Length 146;
Best Local Similarity 27.7%; Pred. No. 3.2e-05;
Matches 28; Conservative 16; Mismatches 34; Indels 23; Gaps 4;
QY 5 TFQKKHLTNTRDVCNNILSTNLFHCKDKNTFTYSRPEPKAIC--KGIASKNV-LTT 60
Db |::|||: ||| ||||: :||| |::|:
53 TWRRRLTSP-----CKDTNTFHGNRHINAICDGENGPNYGGNLRISK 97
QY 61 FEFYLSDCNV-----TSRPCKYKXKSTNTFCVTCENQAPVH 97
Db |::|: |::|: |::|: |::|:
98 SPFQVTTCKLHGSGPRPPCRVREATRGSRNIVVGCENGLPVH 138

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Search completed: May 7, 2004, 21:53:03
Job time : 5.25351 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:25:55 ; Search time 44.7895 Seconds

(without alignments)
662.376 Million cell updates/sec

Title: US-09-961-400-6

Perfect score: 583

Sequence: 1 MQDWLTFQKKHLNTRDVDC.....TFCVTCENQAPVHFVGVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A Geneseq 29Jan04:*

- 1: Geneseqp1980s:*
- 2: Geneseqp1990s:*
- 3: Geneseqp2000s:*
- 4: Geneseqp2001s:*
- 5: Geneseqp2002s:*
- 6: Geneseqp2003as:*
- 7: Geneseqp2003bs:*
- 8: Geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	583	100.0	105	2	AAY28867 Recombina
2	580	99.5	105	2	AAY28869 Recombina
3	578	99.1	104	2	AAY28865 Rana pipi
4	578	99.1	105	2	AAY28871 Recombina
5	578	99.1	127	2	AAY28879 Rana pipi
6	575	98.6	104	2	AAY28866 Recombina
7	573	98.3	104	2	AAY28870 Recombina
8	558	95.7	104	2	AAY06544 Antitumou
9	558	95.7	105	2	AAY35123 R. pipien
10	558	95.7	105	2	AAY39400 Recombina
11	558	95.7	355	2	AAY35125 R. pipien
12	558	95.7	358	2	AAY35130 R. pipien
13	556	95.4	104	2	AAY30301 Recombina
14	556	95.4	104	4	AB31666 Amino aci
15	556	95.4	104	5	AB32650 Northern
16	556	95.4	112	2	AB35118 R. pipien
17	556	95.4	251	2	AAY35134 R. pipien
18	556	95.4	254	2	AAY35135 R. pipien
19	556	95.4	355	2	AAY35133 R. pipien
20	556	95.4	355	2	AAY35129 R. pipien
21	556	95.4	366	2	AAY35132 R. pipien
22	556	95.4	379	2	AAY35126 R. pipien
23	553	94.9	104	2	AAR12344 Protein w
24	553	94.9	104	2	AAR47303 ONCONASE
25	553	94.9	104	2	AAY00736 Protein d

26	553	94.9	104	2	AAW14065	Onconase
27	553	94.9	104	2	AAW06543	Antitumou
28	553	94.9	104	2	AAW88233	Rana pipi
29	553	94.9	104	2	AAW33322	Frog onco
30	551	94.5	105	2	AAW35116	R. pipien
31	551	94.5	106	2	AAW35122	R. pipien
32	551	94.5	107	2	AAW35117	R. pipien
33	550	94.3	104	2	AAW30302	Recombina
34	550	94.3	105	2	AAW35115	R. pipien
35	548	94.0	104	2	AAW18224	Antitumou
36	548	94.0	104	4	AB31667	Amino aci
37	548	94.0	104	5	AB31617	Northern
38	547	93.8	358	2	AAW35127	R. pipien
39	547	93.8	365	2	AAW35131	R. pipien
40	528	90.6	107	2	AAW35120	R. pipien
41	495	84.9	360	2	AAW35128	R. pipien
42	483.5	82.9	111	2	AAW35121	R. pipien
43	445	76.3	83	2	AAW35119	R. pipien
44	445	76.3	83	2	AAW88234	Rana pipi
45	289	49.6	111	2	AAW33321	Frog lect

ALIGNMENTS

RESULT 1

AY28867	AY28867 standard; protein; 105 AA.
XX	AY28867;
AC	AY28867;
XX	
DT	25-JAN-2000 (first entry)
XX	
DE	Recombinant Met (-1) RaPLR1.
XX	
KW	Recombinant Met (-1) Rana pipiens ribonuclease; RaPLR1; CD22; RNase;
KW	covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
KW	Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
KW	recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
XX	autoimmune disease.
XX	Rana pipiens.
OS	Synthetic.
XX	
FH	Key Location/Qualifiers
FT	Misc-difference 1 /note= "Met not found in wild type RaPLR1"
XX	
PN	WO9950398-A2.
XX	
XX	07-OCT-1999.
XX	
PF	26-MAR-1999; 99WO-US0006641.
XX	
PR	27-MAR-1998; 98US-0079751P.
XX	
PA	(USSH) US DEPT HEALTH & HUMAN SERVICES.
XX	
PI	Rybak SM, Newton DL;
XX	
DR	WPI; 1999-610847/52.
XX	N-PSDB; AAZ08126.
XX	
PT	New recombinant ribonucleases, used for killing target cells, e.g. for
XX	treating cancers, viral infections or autoimmune diseases.
XX	Claim 34; Page 57; 71pp; English.
XX	
CC	The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
CC	protein with Met at position 1. Carboxy terminal end of recombinant
CC	RaPLR1 has a covalently bound ligand binding moiety, which can be a LL2
CC	antibody directed against CD22 on cancerous B cells or human chorionic
CC	gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant

CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases
 XX Sequence 105 AA;
 SQ

Query Match 100.0%; Score 583; DB 2; Length 105;
 Best Local Similarity 100.0%; Pred. No. 1.1e-62;
 Matches 105; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MDWLTFFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 DB 1 MDWLTFFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105
 DB 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105

RESULT 2
 AAY28869
 ID AAY28869 standard; protein; 105 AA.
 XX
 AC AAY28869;
 XX
 DT 25-JAN-2000 (first entry)
 XX
 DE Recombinant Met(-1) RapLr1 Met23Leu-(His)6 protein.
 XX
 KW Recombinant Met(-1) Rana pipiens ribonuclease Met23Leu-(His)6; RapLr1;
 KW CD22; covalently bound; LL2 antibody; ligand binding moiety; RNase;
 KW cancerous B cell; Kaposi's sarcoma; human chorionic gonadotropin; hCG;
 KW signal peptide; recombinant ribonuclease; cytotoxic fusion protein;
 KW cancer; frog; autoimmune disease.
 XX
 OS Rana pipiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 1 /note= "Met not found in wild type RapLr1"
 FT Misc-difference 1 /note= "(His)6 histidine tag attached to N-terminal Met"
 FT Misc-difference 24 /note= "Wild type Met replaced with Leu"
 FT
 FT
 FN WO9950398-A2.
 XX
 XX 07-OCT-1999.
 XX
 XX 26-MAR-1999; 99WO-US006641.
 XX
 XX 27-MAR-1998; 98US-0079751P.
 XX
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 XX Rybak SM, Newton DL;
 XX
 XX WPI; 1999-610847/52.
 XX N-PSDB; AAZ08127.
 XX
 XX New recombinant ribonucleases, used for killing target cells, e.g. for
 XX treating cancers, viral infections or autoimmune diseases.
 XX
 XX Claim 4; Page 59; 71pp; English.
 XX
 XX The present sequence is a recombinant Rana pipiens ribonuclease protein
 CC (RapLr1) with Met at position 1 attached to (His)6 tag and Met24Leu.
 CC Carboxy terminal end of recombinant RapLr1 has a covalently bound ligand
 CC binding moiety, which can be a LL2 antibody directed against CD22 on

CC cancerous B cells or human chorionic gonadotropin (hCG) effective
 CC against Kaposi's sarcoma cells. Recombinant ribonucleases can be
 CC expressed in bacteria without an N-terminal methionine due to the
 CC presence of a signal peptide that is cleaved by bacteria. The soluble
 CC expression of ribonuclease allows the proteins to be fused in-frame with
 CC ligand binding moieties to form cytotoxic fusion proteins. They can be
 CC used for treatment of cancer and autoimmune diseases
 XX Sequence 105 AA;
 SQ

Query Match 99.5%; Score 580; DB 2; Length 105;
 Best Local Similarity 99.0%; Pred. No. 2.6e-62;
 Matches 104; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MDWLTFFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 DB 1 MDWLTFFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105
 DB 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105

RESULT 3
 AAY28865
 ID AAY28865 standard; protein; 104 AA.
 XX
 AC AAY28865;
 XX
 DT 25-JAN-2000 (first entry)
 XX
 DE Rana pipiens liver ribonuclease (RapLr1).
 XX
 KW Rana pipiens liver ribonuclease; RapLr1; covalently bound; LL2 antibody;
 KW ligand binding moiety; CD22; cancerous B cell; Kaposi's sarcoma; frog;
 KW human chorionic gonadotropin; hCG; recombinant ribonuclease; RNase;
 KW signal peptide; cytotoxic fusion protein; cancer; autoimmune disease.
 XX
 OS Rana pipiens.
 XX
 FN WO9950398-A2.
 XX
 XX 07-OCT-1999.
 XX
 XX 26-MAR-1999; 99WO-US006641.
 XX
 XX 27-MAR-1998; 98US-0079751P.
 XX
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 XX Rybak SM, Newton DL;
 XX
 XX WPI; 1999-610847/52.
 XX N-PSDB; AAZ08124.
 XX
 XX New recombinant ribonucleases, used for killing target cells, e.g. for
 XX treating cancers, viral infections or autoimmune diseases.
 XX
 XX Claim 1; Page 55; 71pp; English.
 XX
 XX The present sequence is Rana pipiens liver ribonuclease (RapLr1) protein.
 CC Carboxy terminal end of RapLr1 has a covalently bound ligand binding
 CC moiety, which can be a LL2 antibody directed against CD22 on cancerous B
 CC cells or human chorionic gonadotropin (hCG) effective against Kaposi's
 CC sarcoma cells. Recombinant ribonucleases can be expressed in bacteria
 CC without an N-terminal methionine due to the presence of a signal peptide
 CC that is cleaved by bacteria. The soluble expression of ribonuclease
 CC allows the proteins to be fused in-frame with ligand binding moieties to
 CC form cytotoxic fusion proteins. They can be used for treatment of cancer
 CC and autoimmune diseases
 XX Sequence 104 AA;
 SQ

Query Match 99.1%; Score 578; DB 2; Length 104;
 Best Local Similarity 100.0%; Pred. No. 4.4e-62;
 Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 QDWLTFTQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
 DB 1 QDWLTFTQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 62 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 DB 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 4
 AAY28871
 ID AAY28871 standard; protein; 105 AA.
 XX AC AAY28871;
 XX 25-JAN-2000 (first entry)
 XX Recombinant Met(-1) RaPLR1 Gln1Ser amino acid sequence.
 XX Recombinant Met(-1) Rana pipiens ribonuclease Gln1Ser; RaPLR1; CD22;
 KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease; RNase.
 XX Rana pipiens.
 OS Synthetic.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 1 /note= "Met not found in wild type RaPLR1"
 FT Misc-difference 2 /note= "Wild type Gln replaced with Ser"
 FT
 FT
 FT
 XX WO9950398-A2.
 XX 07-OCT-1999.
 XX 26-MAR-1999; 99WO-US006641.
 XX 27-MAR-1998; 98US-0079751P.
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX Rybak SM, Newton DL;
 XX WPI; 1999-610847/52.
 XX N-PSDB; AAZ08129.
 XX New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.
 XX
 PS Claim 34; Page 61; 71pp; English.
 XX The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1 and Gln2Ser. Carboxy terminal end of
 CC recombinant RaPLR1 has a covalently bound ligand binding moiety, which
 CC can be a LL2 antibody directed against CD22 on cancerous B cells or human
 CC chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells.
 CC Recombinant ribonucleases can be expressed in bacteria without an N-
 CC terminal methionine due to the presence of a signal peptide that is
 CC cleaved by bacteria. The soluble expression of ribonuclease allows the
 CC proteins to be fused in-frame with ligand binding moieties to form
 CC cytotoxic fusion proteins. They can be used for treatment of cancer and
 CC autoimmune diseases
 XX Sequence 105 AA;
 SQ

Query Match 99.1%; Score 578; DB 2; Length 105;

Best Local Similarity 99.0%; Pred. No. 4.5e-62;
 Matches 104; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MQDWLTFTQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 DB 1 MSDWLTFTQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 DB 61 TSEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 5
 AAY28879
 ID AAY28879 standard; protein; 127 AA.
 XX AC AAY28879;
 XX 25-JAN-2000 (first entry)
 XX Rana pipiens Clone 5alb ribonuclease.
 DE Rana pipiens ribonuclease Clone 5alb; RaPLR1; covalently bound; RNase;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; onconase;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; cancer;
 KW recombinant ribonuclease; frog; signal peptide; cytotoxic fusion protein;
 KW autoimmune disease.
 XX Rana pipiens.
 OS
 XX Key Location/Qualifiers
 FH Peptide 1..23
 FT /label= Signal peptide
 FT /note= "Putative"
 FT Protein 24..127
 FT /label= Rana pipiens_Clone_5alb_ribonuclease
 XX WO9950398-A2.
 XX 07-OCT-1999.
 XX 26-MAR-1999; 99WO-US006641.
 XX 27-MAR-1998; 98US-0079751P.
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX Rybak SM, Newton DL;
 XX WPI; 1999-610847/52.
 XX N-PSDB; AAZ08136.
 XX New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.
 XX
 PS Disclosure; Page 69; 71pp; English.
 XX The present sequence is a Rana pipiens Clone 5alb ribonuclease (RaPLR1).
 CC It is encoded by Clone 5alb cDNA obtained from Rana pipiens liver mRNA
 CC library. It exhibits differences with Onconase (RTM) at amino acid
 CC residues 11, 20, 85 and 103. Carboxy terminal end of RaPLR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 XX diseases
 XX Sequence 127 AA;
 SQ

QY	2 QDWLTFQKXHLTNRDVEDCNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLTT	61
Dh	1 QDWLTFQKXHLTNRDVEDCNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLTT	60

QY 62 SFHYLSDCNVTSPPCKYKLIKKSNTTCTCTCENQAPVHFVGVGHC 105

RESULT 7
AAV28870

XX AC XX
AAY28870;

XX

XX

KW LL2 antibody; ligand binding moiety; CD22; cancer

OS Rana pipiens.
OS Synthetic.
XX
KW recombinant ribonuclease; cytotoxic fusion protein; cancer; RNase;
autoimmune disease.

FH	Key
FT	Misc-differen

XX
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W09950398-A2.
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DR WET, 1555 010047/52.
DR N-PSDB: AAZ08128

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PT
New recombinant ribo

PT treating cancers,
v.v

PS
yy
Claim 34; Page 60; 71pp; English.

The present sequence is a recombinant RNA piprens fibron

covalently bound ligand binding

CC gonadotropin (hCG) effective against Kaposi's sarcoma cells; recombinant
CC ribonucleases can be expressed in bacteria without an N-terminal
CC methionine due to the presence of a signal peptide that is cleaved by
CC bacteriophage. The soluble expression of ribonuclease allows the proteins to
CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
CC proteins. They can be used for treatment of cancer and autoimmune
CC diseases
XX
SQ Sequence 104 AA;

Best Local Similarity

QY 3 DWITFQKHLTNTRDVCNNIMSTNLFCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 62

QY 3 DWLTFQKKHLNTRDVCNNIMSTNLFPHCKDKNFTFVSRRPEPVKAICGLIIASKNVLTTT QY

Db 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61

QY 63 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 |||||
 Db 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 |||||

RESULT 8
 AAW06544
 ID AAW06544 standard; protein; 104 AA.
 XX AC AAW06544;
 XX DT 22-AUG-1997 (first entry)
 XX DE Antitumour protein from Rana pipiens oocytes.
 XX KW Tumour; chemotherapy; radiotherapy; frog.
 XX OS Rana pipiens.
 XX PN WO9639428-A1.
 XX PD 12-DEC-1996.
 XX PF 03-JUN-1996; 96WO-US008304.
 XX PR 06-JUN-1995; 95US-00467955.
 XX PA (ALFA-) ALFACELL CORP.
 XX PI Ardelt WJ;
 XX WPI; 1997-043063/04.
 XX Antitumour proteins from Rana pipiens oocyte(s) - have fewer
 PT disadvantages than chemotherapy, surgery and radiotherapy.
 XX Claim 8; Page 28; 45pp; English.

The present sequence is a specifically claimed example of an antitumour protein from the generic protein in AAW18224, with the molecular weight 12000. This is one of two preferred proteins (the other in AAW06543) that have been isolated from Rana pipiens oocytes. Both proteins have a blocked amino terminal group and are essentially free of carbohydrates. The proteins are used to treat tumours. Use of the peptides has fewer disadvantages than chemotherapy, radiotherapy and surgery in the treatment of tumours

SQ Sequence 104 AA;

Query Match 95.7%; Score 558; DB 2; Length 104;
 Best Local Similarity 96.2%; Pred. No. 1.2e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
 :|||||
 Db 1 EDWLTFQKKHVTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 |||||

QY 62 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 |||||
 Db 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGRC 104
 |||||

RESULT 9
 AAW35123
 ID AAW35123 standard; protein; 105 AA.
 XX AC AAW35123;
 XX DT 20-APR-1998 (first entry)
 XX DE R. pipiens recombinant RNase protein [Met-(-1)]rOnc.

XX RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 XX OS Rana pipiens.
 XX WO9731116-A2.
 XX PN 28-AUG-1997.
 XX PF 19-FEB-1997; 97WO-US002588.
 XX PR 21-FEB-1996; 96US-0011800P.
 XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX PI Rybak SM, Newton DL, Boque L, Wlodawer A;
 XX WPI; 1997-435168/40.
 XX DR N-PSDB; AAT94959.
 XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 XX Disclosure; Page 65-66; 90pp; English.

AAW35115 to AAW35123 encode recombinant proteins (rOnc) which are modifications of the RNase Onconase (rOnc). Such novel ribonuclease molecules are highly cytotoxic and can be used alone or to form chemical conjugates or to target recombinant immunofusions. They are used particularly for decreasing tumour cell growth. They can also be used for cell separation in vitro by selectively killing unwanted types of cells, e.g. in bone marrow prior to transplantation into a patient undergoing marrow ablation by radiation, or for killing leukaemia cells or T-cells that would cause graft versus host disease. The toxins can also be used to selectively kill unwanted cells in culture. The new ribonucleases have increased cytotoxic activity compared to nOnc and also lower immunogenicity in humans

XX Sequence 105 AA;

Query Match 95.7%; Score 558; DB 2; Length 105;
 Best Local Similarity 95.2%; Pred. No. 1.2e-59;
 Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 :|||||
 Db 1 MEDWLTFQKKHITNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 |||||

QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 |||||
 Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 105
 |||||

RESULT 10
 AAY39400
 ID AAY39400 standard; protein; 105 AA.
 XX AC AAY39400;
 XX DT 01-DEC-1999 (first entry)
 XX DE Recombinant frog Onconase.
 XX KW Ribonuclease; protein synthesis; inhibition; cancer; cytotoxic.
 XX OS Rana pipiens.
 XX PN WO9946389-A1.
 XX PD 16-SEP-1999.
 XX PF 11-MAR-1999; 99WO-US004252.

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XX 11-MAR-1998; 98US-0077557P.
XX (IMMU-) IMMUNOMEDICS INC.
XX Goldenberg DM, Hansen H, Leung S;
XX WPI; 1999-551416/46.
XX N-PSDB; AAZ19767.
XX A new recombinant Onconase used to treat, e.g. colon cancer.
XX Example 1; Fig 1; 42pp; English.
XX This sequence represents recombinant frog Onconase. Onconase has
XX ribonuclease and anti-tumour activity. The cDNA was produced via PCR
XX (using primers AAZ19768-219769) of two synthetic DNAs whose sequences
XX encoded most of the N-terminal or the C-terminal amino acids of mature
XX Onconase. The two PCR products generated encoded either the N-terminal 54
XX amino acids (minus the initial methionine) or the C-terminal 51 amino
XX acids, and were ligated in frame at an NruI site. The cDNA was then
XX subcloned into a vector e.g., pBluescript, where the AUG initiation codon
XX was ligated to the cDNA. After expression in E. coli, the recombinant
XX protein was purified. The initial N-formyl methionine was cleaved off and
XX the now N-terminal glutamate residue cyclised to form an N-terminal
XX pyroglutamate. The pyroglutamate residue forms part of the phosphate
XX binding pocket of Onconase and is essential for both ribonuclease and anti
XX -tumour activity. Onconase is a 12 kD ribonuclease which causes cell
XX death as a result of potent inhibition of protein synthesis by a
XX mechanism involving inactivation of cellular RNA. It is not inhibited by
XX mammalian placental ribonuclease inhibitor, which may explain its
XX enhanced cytotoxicity relative to mammalian enzymes. It has anti-tumour
XX activity against a variety of solid tumours e.g. colon or pancreatic
XX cancers, and can be used alone or in combination with other anti-cancer
XX agents such as tamoxifen. When used as an anti-tumour agent, Onconase can
XX be conjugated to a marker which targets it to a specific cell type
XX
XX Sequence 105 AA;
XX
XX Query Match 95.7%; Score 558; DB 2; Length 105;
XX Best Local Similarity 95.2%; Pred. No. 1.2e-59;
XX Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
XX
XX QY 1 MQDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIITASKNVLT 60
XX Db |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
XX 1 MQDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIITASKNVLT 60
XX
XX QY 61 TSEFYLSDCNVTSPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 105
XX Db |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
XX 61 TSEFYLSDCNVTSPCKYKLLKSKTNTFCVTCENQAPVHFVGVGSC 105
XX
XX RESULT 11
XX AAW35125
XX ID AAW35125 standard; protein; 355 AA.
XX AC AAW35125;
XX XX
XX XX 20-APR-1998 (first entry)
XX DT
XX DE R. pipiens recombinant RNase rOnc fusion protein 1.
XX XX
XX XX RNase A; ribonuclease; cytotoxic; onconase; rOnc; immunofusion;
XX KW tumour cell growth; frog.
XX XX
XX XX Rana pipiens.
XX OS Synthetic.
XX OS
XX PN WO9731116-A2.
XX XX
XX PD 28-AUG-1997.
XX XX
XX PF 19-FEB-1997; 97WO-US002588.
XX XX
XX XX 21-FEB-1996; 96US-0011800P.
XX PR
XX XX (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX PA
XX XX Rybak SM, Newton DL, Boque L, Wlodawer A;
XX PI
XX XX WPI; 1997-435168/40.
XX XX
XX XX N-PSDB; AAT94968.
XX XX
XX XX A new recombinant Onconase used to treat, e.g. colon cancer.
XX XX
XX XX Example 1; Fig 1; 42pp; English.
XX XX
XX XX This sequence represents recombinant frog Onconase. Onconase has
XX XX ribonuclease and anti-tumour activity. The cDNA was produced via PCR
XX XX (using primers AAW35125-219769) of two synthetic DNAs whose sequences
XX XX encoded most of the N-terminal or the C-terminal amino acids of mature
XX XX Onconase. The two PCR products generated encoded either the N-terminal 54
XX XX amino acids (minus the initial methionine) or the C-terminal 51 amino
XX XX acids, and were ligated in frame at an NruI site. The cDNA was then
XX XX subcloned into a vector e.g., pBluescript, where the AUG initiation codon
XX XX was ligated to the cDNA. After expression in E. coli, the recombinant
XX XX protein was purified. The initial N-formyl methionine was cleaved off and
XX XX the now N-terminal glutamate residue cyclised to form an N-terminal
XX XX pyroglutamate. The pyroglutamate residue forms part of the phosphate
XX XX binding pocket of Onconase and is essential for both ribonuclease and anti
XX XX -tumour activity. Onconase is a 12 kD ribonuclease which causes cell
XX XX death as a result of potent inhibition of protein synthesis by a
XX XX mechanism involving inactivation of cellular RNA. It is not inhibited by
XX XX mammalian placental ribonuclease inhibitor, which may explain its
XX XX enhanced cytotoxicity relative to mammalian enzymes. It has anti-tumour
XX XX activity against a variety of solid tumours e.g. colon or pancreatic
XX XX cancers, and can be used alone or in combination with other anti-cancer
XX XX agents such as tamoxifen. When used as an anti-tumour agent, Onconase can
XX XX be conjugated to a marker which targets it to a specific cell type
XX XX
XX XX Sequence 355 AA;
XX XX
XX XX Query Match 95.7%; Score 558; DB 2; Length 355;
XX XX Best Local Similarity 95.2%; Pred. No. 5.8e-59;
XX XX Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
XX XX
XX XX QY 1 MQDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIITASKNVLT 60
XX XX Db |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
XX XX 251 MEDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIITASKNVLT 310
XX XX
XX XX QY 61 TSEFYLSDCNVTSPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 105
XX XX Db |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
XX XX 311 TSEFYLSDCNVTSPCKYKLLKSKTNTFCVTCENQAPVHFVGVGSC 355
XX XX
XX XX RESULT 12
XX XX AAW35130
XX XX ID AAW35130 standard; protein; 358 AA.
XX XX AC AAW35130;
XX XX XX
XX XX XX 20-APR-1998 (first entry)
XX XX DT
XX XX DE R. pipiens recombinant RNase rOnc fusion protein 6.
XX XX XX
XX XX XX RNase A; ribonuclease; cytotoxic; onconase; rOnc; immunofusion;
XX XX KW tumour cell growth; frog.
XX XX XX
XX XX XX Rana pipiens.
XX XX OS Synthetic.
XX XX OS
XX XX PN WO9731116-A2.
XX XX XX
XX XX PD 28-AUG-1997.
XX XX XX
XX XX PF 19-FEB-1997; 97WO-US002588.
XX XX XX
XX XX XX 21-FEB-1996; 96US-0011800P.
XX XX PR
XX XX XX (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX XX PA
XX XX XX Rybak SM, Newton DL, Boque L, Wlodawer A;
XX XX PI
XX XX XX WPI; 1997-435168/40.
XX XX XX
XX XX XX N-PSDB; AAT94968.
XX XX
XX XX

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XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 PS Disclosure; Page 72; 90pp; English.
 XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans
 XX Sequence 358 AA;
 SQ

Query Match 95.7%; Score 558; DB 2; Length 358;
 Best Local Similarity 95.2%; Pred. No. 5.9e-59;
 Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
 QY 1 MODWLTQKXHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 DB 1 MEDWLTQKXHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 61 TSEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 DB 61 TSEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 105

RESULT 13

AAW30301
 ID AAW30301 standard; protein; 104 AA.
 AC AAW30301;
 XX
 DT 09-JUN-1998 (first entry)
 DE Recombinant onc protein.
 XX
 KW Onc; onconase; ribonuclease; frog; antitumour; pancreatic cancer;
 KW human immunodeficiency virus type-1; HIV1; replication.
 XX
 OS Rana pipiens.
 XX
 PN WO9738112-A1.
 PD 16-OCT-1997.
 PF 04-APR-1997; 97WO-US005675.
 XX
 PR 04-APR-1996; 96US-00626288.
 XX
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Youle RJ, Vasandani VM, Wu Y, Boix E, Ardelt W;
 XX WPI; 1997-512725/47.
 DR
 PT Recombinant Onc protein with glutamine residue at position 1 - useful as
 PT antitumour and antiviral agent, also as cell culture selection agent.
 XX
 PS Claim 1; Page 28; 35pp; English.
 XX

XX This sequence represents a recombinant Onc protein comprising a 104 amino
 CC acid sequence having Gln at position 1. Onc, a ribonuclease from Rana
 CC pipiens oocytes, is known as an antitumour agent (e.g. for treating
 CC pancreatic cancer) and inhibitor of human immunodeficiency virus type-1
 CC replication. It can be used therapeutically or as a cell-culture

CC selection agent, e.g. to identify gene therapy compositions able to
 CC inhibit tumour growth
 XX
 SQ Sequence 104 AA;

Query Match 95.4%; Score 556; DB 2; Length 104;
 Best Local Similarity 96.2%; Pred. No. 2.1e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 2 QDWLTQKXHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 DB 1 QDWLTQKXHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 62 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 DB 61 SEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 14

AAB31666
 ID AAB31666 standard; protein; 104 AA.
 AC AAB31666;
 XX
 DT 30-APR-2001 (first entry)
 DE Amino acid sequence of a frog ribonuclease protein.
 XX
 KW Frog; ribonuclease; ranpirnase; RNase.
 XX
 OS Rana pipiens.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1 /note= "this Gln is autocyclised to pyroglutamic acid"
 FT
 XX US6175003-B1.
 PN
 PD 16-JAN-2001.
 XX
 PF 10-SEP-1999; 99US-00394268.
 XX
 PR 10-SEP-1999; 99US-00394268.
 XX
 PA (ALFA-) ALFACELL CORP.
 XX
 PI Saxena SK;
 XX
 DR WPI; 2001-167808/17.
 XX
 PT New nucleic acids encoding a ribonuclease (Rnase), useful for the precise
 PT targeting of Rnase to a predetermined cell receptor.
 XX
 PS Claim 1; Col 5-6; 7pp; English.

XX The present sequence represents a frog ribonuclease protein (ranpirnase)
 CC (Rnase). The specification describes a synthetic ribonuclease protein, in
 CC which the addition of cysteine in the ribonuclease facilitates the
 CC chemical linking of a targeting molecule by the single reactive
 CC sulfhydryl group. The specification also describes a method for the
 CC production of ranpirnase using DNA technology instead of processing
 CC biological material. The re-engineering of the protein molecule allows
 CC easier attachment to a targeting molecule thereby making it possible for
 CC the ribonuclease to be delivered to a particular cell receptor where it
 CC might be most effective
 XX
 SQ Sequence 104 AA;

Query Match 95.4%; Score 556; DB 4; Length 104;
 Best Local Similarity 96.2%; Pred. No. 2.1e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 2 QDWLTQKXHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61

Db 1 QDWLTFQKHITNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60
QY 62 SEFYLSDCNVTSPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSPCKYKLSKSTNKFVCVCENQAPVHFVGVGSC 104

RESULT 15
ABG32650
ID ABG32650 standard; protein; 104 AA.
XX AC ABG32650;
XX DT 15-NOV-2002 (first entry)
XX Northern leopard frog ranpirnase protein.
XX Northern leopard frog; ranpirnase; site-directed mutation; ribonuclease.
XX OS Rana pipiens.
XX PN US6423515-B1.
XX PD 23-JUL-2002.
XX PF 14-OCT-2000; 2000US-00687748.
XX PR 10-SEP-1999; 99US-00394268.
XX PA (ALFA-) ALFACELL CORP.
XX PI Saxena SK;
XX WPI; 2002-664633/71.
XX Constructing isolated nucleic acid encoding ribonuclease, by subjecting
PT desired recombinant plasmid DNA to different site-directed mutations to
PT produce nucleic acid, using different polymerase chain reaction
PT protocols.
XX Claim 1; Col 5-6; 8pp; English.
XX The present invention relates to a new method of constructing isolated
CC nucleic acid encoding ribonuclease protein with N-terminal Met at
CC position -1 and Glu at position 1, where its Met has been cleaved and its
CC Glu has been autocyclised. The method of the invention involves
CC subjecting pET11d-rOnc(Q1,M23L) plasmid DNA to two different site-
CC directed mutations, each using overlapping PCR protocol. The method is
CC useful for constructing an isolated nucleic acid encoding the
CC ribonuclease. The present amino acid sequence represents the northern
CC leopard frog ranpirnase protein of the invention
XX SQ Sequence 104 AA;

Query Match 95.4%; Score 556; DB 5; Length 104;
Best Local Similarity 96.2%; Pred. No. 2.1e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 2 QDWLTFQKHITNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
Db 1 QDWLTFQKHITNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60
QY 62 SEFYLSDCNVTSPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSPCKYKLSKSTNKFVCVCENQAPVHFVGVGSC 104

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:28:45 ; Search time 12.1796 Seconds
(without alignments)
445.066 Million cell updates/sec

Title: US-09-961-400-6

Perfect score: 583

Sequence: 1. MQDWLTFQKHLITNRDVDC.....TFCVTCENQAPVHFVGVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

Issued Patents AA:*

1: /cgn2_6/prodata/2/iaa/5A COMB.pep:*

2: /cgn2_6/prodata/2/iaa/5B COMB.pep:*

3: /cgn2_6/prodata/2/iaa/6A COMB.pep:*

4: /cgn2_6/prodata/2/iaa/6B COMB.pep:*

5: /cgn2_6/prodata/2/iaa/PCUTS COMB.pep:*

6: /cgn2_6/prodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	558	95.7	104	1	US-08-467-955-2
2	558	95.7	105	3	US-08-875-811-39
3	558	95.7	355	3	US-08-875-811-41
4	558	95.7	358	3	US-08-875-811-51
5	556	95.4	104	3	US-09-394-268-1
6	556	95.4	104	4	US-08-626-288-1
7	556	95.4	104	4	US-09-095-429-1
8	556	95.4	112	3	US-08-875-811-32
9	556	95.4	129	3	US-08-875-811-59
10	556	95.4	251	3	US-08-875-811-61
11	556	95.4	355	3	US-08-875-811-49
12	556	95.4	355	3	US-08-875-811-57
13	556	95.4	355	3	US-08-875-811-55
14	556	95.4	366	3	US-08-875-811-43
15	556	95.4	379	3	US-08-875-811-41
16	553	94.9	104	1	US-07-921-619-1
17	553	94.9	104	1	US-08-467-955-1
18	553	94.9	104	2	US-08-875-811-13
19	551	94.5	104	4	US-09-071-672-1
20	551	94.5	104	4	US-09-986-119-1
21	551	94.5	105	3	US-08-875-811-26
22	551	94.5	106	3	US-08-875-811-28
23	551	94.5	107	3	US-08-875-811-30
24	551	94.5	107	3	US-08-875-811-30
25	551	94.5	107	3	US-08-875-811-30
26	551	94.5	107	3	US-08-875-811-30
27	551	94.5	107	3	US-08-875-811-30

28	550	94.3	105	3	US-08-875-811-24	Sequence 24, Appl
29	548	94.0	104	3	US-09-394-268-2	Sequence 2, Appl
30	548	94.0	104	4	US-09-687-748-2	Sequence 2, Appl
31	548	94.0	104	4	US-08-626-288-2	Sequence 2, Appl
32	548	94.0	104	4	US-09-095-429-2	Sequence 2, Appl
33	547	93.8	358	3	US-08-875-811-45	Sequence 45, Appl
34	547	93.8	365	3	US-08-875-811-53	Sequence 53, Appl
35	528	90.6	107	3	US-08-875-811-20	Sequence 20, Appl
36	495	84.9	360	3	US-08-875-811-47	Sequence 47, Appl
37	483.5	82.9	111	3	US-08-875-811-22	Sequence 22, Appl
38	445	76.3	83	3	US-08-875-811-2	Sequence 2, Appl
39	445	76.3	83	4	US-09-071-672-3	Sequence 3, Appl
40	445	76.3	83	4	US-09-986-119-3	Sequence 3, Appl
41	289	49.6	111	2	US-08-891-848-12	Sequence 12, Appl
42	289	49.6	111	3	US-08-875-811-8	Sequence 8, Appl
43	217.5	37.3	114	3	US-09-223-118-4	Sequence 4, Appl
44	205.5	35.2	114	3	US-09-223-118-2	Sequence 2, Appl
45	204.5	35.1	114	3	US-09-223-118-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1

US-08-467-955-2

; Sequence 2, Application US/08467955

; Patent No. 5728805

; GENERAL INFORMATION:

; APPLICANT: Ardelt Ph.D, Wojciech J.

; TITLE OF INVENTION: PHARMACEUTICALS AND METHOD FOR MAKING THEM

; NUMBER OF SEQUENCES: 2

; CORRESPONDENCE ADDRESS:

; ADDRESSER: Mark H. Jay, P.A.

; STREET: P.O. Box E

; CITY: Short Hills

; STATE: New Jersey

; COUNTRY: USA

; ZIP: 07078-0383

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patent In Release #1.24

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/467,955

; FILING DATE:

; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 07/178,118

; FILING DATE: 06-APR-1988

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 07/436,141

; FILING DATE: 13-NOV-1989

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 07/814,332

; FILING DATE: 03-FEB-1992

; APPLICATION DATA:

; APPLICATION NUMBER: US 08/283,970

; FILING DATE: 01-AUG-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Jay, Mark H.

; REGISTRATION NUMBER: 27507

; REFERENCE/DOCKET NUMBER: 5007 US

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 201-912-9066

; TELEFAX: 201-912-0442

; TELEX: No. 5728805 Applicable

; INFORMATION FOR SEQ ID NO: 2:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 104 amino acids

; TYPE: amino acid

; STRANDEDNESS: single

; TOPOLOGY: linear

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; MOLECULE TYPE: protein
; HYPOTHETICAL: N
; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Oocyte
US-08-467-955-2

Query Match          95.7%; Score 558; DB 1; Length 104;
Best Local Similarity 96.2%; Pred. No. 2.1e-60;
Matches 100; Conservative 2; Mismatches 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 61
Db 1 EDWLTFOKKHVTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60

QY 62 SEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 2
US-08-875-811-39
; Sequence 39, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; FILING DATE: 19-FEB-1998
; APPLICATION NUMBER: US/08/875,811
; PRIORITY DATE: 19-FEB-1998
; PRIORITY APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 39:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 105 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
;
US-08-875-811-39

Query Match          95.7%; Score 558; DB 3; Length 105;
Best Local Similarity 95.2%; Pred. No. 2.1e-60;
Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60
Db 1 MEDWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGSC 105

RESULT 3
US-08-875-811-41
; Sequence 41, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; FILING DATE: 19-FEB-1998
; APPLICATION NUMBER: US/08/875,811
; PRIORITY DATE: 19-FEB-1998
; PRIORITY APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
;
US-08-875-811-41

Query Match          95.7%; Score 558; DB 3; Length 355;
Best Local Similarity 95.2%; Pred. No. 1e-59;
Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60
Db 251 MEDWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 310

QY 61 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 311 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGSC 355

RESULT 4
US-08-875-811-51
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; MOLECULE TYPE: protein
; HYPOTHETICAL: N
; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Oocyte
US-08-467-955-2

Query Match          95.7%; Score 558; DB 1; Length 104;
Best Local Similarity 96.2%; Pred. No. 2.1e-60;
Matches 100; Conservative 2; Mismatches 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 61
Db 1 EDWLTFOKKHVTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60

QY 62 SEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 2
US-08-875-811-39
; Sequence 39, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; FILING DATE: 19-FEB-1998
; APPLICATION NUMBER: US/08/875,811
; PRIORITY DATE: 19-FEB-1998
; PRIORITY APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 39:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 105 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
;
US-08-875-811-39

Query Match          95.7%; Score 558; DB 3; Length 105;
Best Local Similarity 95.2%; Pred. No. 2.1e-60;
Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60
Db 1 MEDWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGSC 105

RESULT 3
US-08-875-811-41
; Sequence 41, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; FILING DATE: 19-FEB-1998
; APPLICATION NUMBER: US/08/875,811
; PRIORITY DATE: 19-FEB-1998
; PRIORITY APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
;
US-08-875-811-41

Query Match          95.7%; Score 558; DB 3; Length 355;
Best Local Similarity 95.2%; Pred. No. 1e-59;
Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 60
Db 251 MEDWLTFOKKHLNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICGIIASKNVLT 310

QY 61 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 311 TSEFYLSDCNVTSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGSC 355

RESULT 4
US-08-875-811-51
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; Sequence 51, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Paris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 51:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 358 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-51

Query Match          95.7%; Score 558; DB 3; Length 358;
Best Local Similarity 95.2%; Pred. No. 1e-59;
Matches 100; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MEDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 105

RESULT 5
US-09-394-268-1
; Sequence 1, Application US/09394268
; Patent No. 6175003
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: NUCLEIC ACIDS ENCODING RIBONUCLEASES AND METHODS OF
; FILE REFERENCE: 5013
; CURRENT APPLICATION NUMBER: US/09/394,268
; CURRENT FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1

Query Match          95.4%; Score 556; DB 3; Length 104;
Best Local Similarity 96.2%; Pred. No. 3.6e-60;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 62 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 6
US-09-687-748-1
; Sequence 1, Application US/09687748
; Patent No. 6423515
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: METHODS OF MAKING NUCLEIC ACIDS ENCODING RIBONUCLEASES
; FILE REFERENCE: 5013 US 01
; CURRENT APPLICATION NUMBER: US/09/687,748
; CURRENT FILING DATE: 2000-10-14
; PRIOR APPLICATION NUMBER: 09/394,268
; PRIOR FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
; US-09-687-748-1

Query Match          95.4%; Score 556; DB 4; Length 104;
Best Local Similarity 96.2%; Pred. No. 3.6e-60;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 62 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 7
US-08-626-288-1
; Sequence 1, Application US/08626288
; Patent No. 6649392
; GENERAL INFORMATION:
; APPLICANT: Youle, Richard
; APPLICANT: Vasandani, Veena
; APPLICANT: Wu, Yon-Neng
; APPLICANT: Boix, Ester
; APPLICANT: Ardelet, Wojciech
; TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
; TITLE OF INVENTION: Allows Production by Recombinant Methods
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew
; STREET: One Market Plaza, Steuart Street Tower
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/626,288
FILING DATE: No. 6649392 yet assigned
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Ran, David B.
REGISTRATION NUMBER: 38,589
REFERENCE/DOCKET NUMBER: 15280-267
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-9600
TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 104 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-626-288-1

Query Match 95.4%; Score 556; DB 4; Length 104;
Best Local Similarity 96.2%; Pred. No. 3.6e-60;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTQKXHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
Db 1 QDWLTQKXHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60

QY 62 SEFYLSDCNVTSPCKYKLLKSKNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSPCKYKLLKSKNTFCVTCENQAPVHFVGVGSC 104

RESULT 8
US-09-429-1
Sequence 1, Application US/09095429
Patent No. 6649393
GENERAL INFORMATION:
APPLICANT: Youle, Richard
APPLICANT: Vasandani, Veena
APPLICANT: Wu, Yon-Neng
APPLICANT: Boix, Ester
APPLICANT: Argelt, Wojetech
TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
TITLE OF INVENTION: Allows Production by Recombinant Methods
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Street Tower
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94105-1492
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/095,429
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/626,288
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Ran, David B.
REGISTRATION NUMBER: 38,589
REFERENCE/DOCKET NUMBER: 15280-267
TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 543-9600
TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 104 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-09-095-429-1

Query Match 95.4%; Score 556; DB 4; Length 104;
Best Local Similarity 96.2%; Pred. No. 3.6e-60;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTQKXHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
Db 1 QDWLTQKXHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 60

QY 62 SEFYLSDCNVTSPCKYKLLKSKNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSPCKYKLLKSKNTFCVTCENQAPVHFVGVGSC 104

RESULT 9
US-08-875-811-32
Sequence 32, Application US/08875811
Patent No. 6045793
GENERAL INFORMATION:
APPLICANT: Rybak, Susanna M.
APPLICANT: Newton, Dianne L.
APPLICANT: Bogue, Lluís
APPLICANT: Wlodawer, Alexander
TITLE OF INVENTION: Recombinant Ribonuclease Proteins
NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: Faris, Susan K.
REGISTRATION NUMBER: 41,739
REFERENCE/DOCKET NUMBER: 015280-244100US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 32:
SEQUENCE CHARACTERISTICS:
LENGTH: 112 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-875-811-32

Query Match 95.4%; Score 556; DB 3; Length 112;

Best Local Similarity 95.2%; Pred. No. 4e-60;
Matches 100; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy	1	MODWLTFOQKHLTNTEDVDCNNIMSTNLNLFCHCKDKQKNTFYISREEPYKATCKGIIASKNVLT	60
Db	8	MSDLWLTFOQKHLTNTEDVDCNNIMSTNLNLFCHCKDKQKNTFYISREEPYKATCKGIIASKNVLT	67
Qy	61	TSFYFLSDCNVTSRCPCKYKLKKTNTFCVTCTENQAPVFHFVGVGHC	105
Db	68	TSFYFLSDCNVTSRCPCKYKLKKTNTFCVTCTENQAPVFHFVGVGSC	112

RESULT 10

US-08-875-811-63
 ; Sequence 63, Application US/08875811
 ; Patent No. 6045793
 ; GENERAL INFORMATION:
 ; APPLICANT: Rybak, Susanna M.
 ; APPLICANT: Newton, Dianne L.
 ; APPLICANT: Boque, Lluis
 ; APPLICANT: Wlodawer, Alexander
 ; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
 ; NUMBER OF SEQUENCES: 64
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Townsend and Townsend and Crew LLP
 ; STREET: Two Embarcadero Center, Eighth Floor
 ; CITY: San Francisco
 ; STATE: California
 ; COUNTRY: USA
 ; ZIP: 94111-3834
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/875,811
 ; FILING DATE: 19-FEB-1998
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: WO PCT/US97/02598
 ; FILING DATE: 19-FEB-1997
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 60/011,800
 ; FILING DATE: 21-FEB-1996
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Faris, Susan K.
 ; REGISTRATION NUMBER: 41,739
 ; REFERENCE/DOCKET NUMBER: 015280-244100US
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (415) 576-0200
 ; TELEFAX: (415) 576-0300
 ; INFORMATION FOR SEQ ID NO: 63:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 129 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 US-08-875-811-63

RESULT 11

US-08-875-811-59
 ; Sequence 59, Application US/08875811
 ; Patent No. 6045793
 ; GENERAL INFORMATION:
 ; APPLICANT: Rybak, Susanna M.
 ; APPLICANT: Newton, Dianne L.
 ; APPLICANT: Boque, Lluís
 ; APPLICANT: Wlodawer, Alexander
 ; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
 ; NUMBER OF SEQUENCES: 64
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Townsend and Townsend and Crew LLP
 ; STREET: Two Embarcadero Center, Eighth Floor
 ; CITY: San Francisco
 ; STATE: California
 ; COUNTRY: USA
 ; ZIP: 94111-3834
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/875,811
 ; FILING DATE: 19-FEB-1998
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: WO PCT/US97/02588
 ; FILING DATE: 19-FEB-1997
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 60/011,800
 ; FILING DATE: 21-FEB-1996
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Faris, Susan K.
 ; REGISTRATION NUMBER: 41,739
 ; REFERENCE/DOCKET NUMBER: 015280-244100US
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (415) 576-0200
 ; TELEFAX: (415) 576-0300
 ; INFORMATION FOR SEQ ID NO: 59:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 251 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 US-08-875-811-59

RESULT 12

US-08-875-811-61
; Sequence 61, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Pianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
;

RESULT 13
S-08-875-811-49
Sequence 49, Application US/09875811
Patent No. 6045793
GENERAL INFORMATION:
APPLICANT: Rybak, Susanna M.
APPLICANT: Newton, Dianne L.
APPLICANT: Boque, Iliuis
APPLICANT: Wlodawer, Alexander
TITLE OF INVENTION: Recombinant Ribonuclease Proteins
NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:

NAME: Faris, Susan K.

4

RESULT 13
S-08-875-811-49
Sequence 49, Application US/08875811
Patent No. 6045793
GENERAL INFORMATION:
APPLICANT: Rybak, Susanna M.
APPLICANT: Newton, Bianne L.
APPLICANT: Boque, Lluís
APPLICANT: Wlodaver, Alexander
TITLE OF INVENTION: Recombinant
NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend
STREET: Two Embarcadero Center
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.
CURRENT APPLICATION DATA:


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; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 57:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-57

Query Match          95.4%; Score 556; DB 3; Length 355;
Best Local Similarity 95.2%; Pred. No. 1.8e-59;
Matches 100; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 MQDLTFQKKHLINTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIISKNVLT 60
Db 1 MSDWLTFOKKHIINTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIISKNVLT 60
QY 61 TSEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSPCKYKLLKSTNKFCVTCENQAPVHFVGVGSC 105

RESULT 15
US-08-875-811-64
; Sequence 64, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Luis
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Farris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 64:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
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; NAME/KEY: Protein
; LOCATION: 1..355
; OTHER INFORMATION: /note= "E6FB [Met-(-1)]SerrOnc"
; US-08-875-811-64

Query Match          95.4%; Score 556; DB 3; Length 355;
Best Local Similarity 95.2%; Pred. No. 1.8e-59;
Matches 100; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 MQDLTFQKKHLINTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIISKNVLT 60
Db 251 MSDWLTFOKKHIINTRDVCNNIMSTNLFHCKDKNTFIYSRPPVKAICKGIISKNVLT 310
QY 61 TSEFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 311 TSEFYLSDCNVTSPCKYKLLKSTNKFCVTCENQAPVHFVGVGSC 355

Search completed: May 7, 2004, 21:40:43
Job time : 12.1796 secs
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:29:40 ; Search time 33.6904 Seconds
(without alignments)
865.070 Million cell updates/sec

Title: US-09-961-400-6

Perfect score: 583

Sequence: 1 MQDWLTQKXHLNTRDVC.....TFCVTCEQAPVHFVGVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1140673 seqs, 277566755 residues

Total number of hits satisfying chosen parameters: 1140673

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA.*

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9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep.*
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13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep.*
14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
16: /cgn2_6/ptodata/2/pubpaa/US10C_NEW_PUB.pep.*
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18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Score	Match	Length	DB	ID	Description
1	583	100.0	105	10	US-09-948-391A-6	Sequence 6, Appli
2	583	100.0	105	10	US-09-961-400-6	Sequence 6, Appli
3	580	99.5	111	10	US-09-961-400-9	Sequence 9, Appli
4	578	99.1	104	10	US-09-961-400-2	Sequence 2, Appli
5	578	99.1	105	10	US-09-948-391A-13	Sequence 13, Appli
6	578	99.1	105	10	US-09-961-400-13	Sequence 13, Appli
7	578	99.1	127	10	US-09-948-391A-28	Sequence 28, Appli
8	578	99.1	127	10	US-09-961-400-28	Sequence 28, Appli
9	573	98.3	104	10	US-09-948-391A-11	Sequence 11, Appli
10	573	98.3	104	10	US-09-961-400-11	Sequence 11, Appli
11	570	97.8	105	10	US-09-961-400-8	Sequence 8, Appli
12	569	97.6	104	10	US-09-948-391A-2	Sequence 2, Appli
13	569	97.6	104	10	US-09-948-391A-4	Sequence 4, Appli
14	569	97.6	104	10	US-09-961-400-4	Sequence 4, Appli
15	565	96.9	105	10	US-09-948-391A-8	Sequence 8, Appli

16	565	96.9	111	10	US-09-948-391A-9	Sequence 9, Appli
17	561	96.2	105	14	US-10-153-882-2	Sequence 2, Appli
18	551	94.5	104	9	US-09-986-119-1	Sequence 1, Appli
19	551	94.5	104	10	US-09-918-887-1	Sequence 1, Appli
20	548	94.0	104	12	US-10-461-713-53	Sequence 53, Appli
21	445	76.3	83	9	US-09-986-119-3	Sequence 3, Appli
22	445	76.3	83	10	US-09-918-887-3	Sequence 3, Appli
23	286.5	49.1	111	10	US-09-961-400-17	Sequence 17, Appli
24	282.5	48.5	111	10	US-09-948-391A-21	Sequence 21, Appli
25	282.5	48.5	111	10	US-09-961-400-21	Sequence 21, Appli
26	282.5	48.5	117	10	US-09-948-391A-22	Sequence 22, Appli
27	282.5	48.5	117	10	US-09-961-400-22	Sequence 22, Appli
28	281.5	48.3	110	10	US-09-948-391A-15	Sequence 15, Appli
29	281.5	48.3	110	10	US-09-961-400-15	Sequence 15, Appli
30	281.5	48.3	111	10	US-09-948-391A-26	Sequence 26, Appli
31	281.5	48.3	111	10	US-09-961-400-26	Sequence 26, Appli
32	280.5	48.1	111	10	US-09-948-391A-17	Sequence 17, Appli
33	277.5	47.6	110	10	US-09-961-400-19	Sequence 19, Appli
34	276.5	47.4	110	10	US-09-948-391A-24	Sequence 24, Appli
35	276.5	47.4	110	10	US-09-961-400-24	Sequence 24, Appli
36	271.5	46.6	110	10	US-09-948-391A-19	Sequence 19, Appli
37	157.5	27.0	169	13	US-10-016-447-2	Sequence 2, Appli
38	149	25.6	119	12	US-10-016-248-89	Sequence 89, Appli
39	149	25.6	119	15	US-10-074-978A-139	Sequence 139, Appli
40	128.5	22.0	124	13	US-10-016-447-5	Sequence 5, Appli
41	125	21.4	124	12	US-10-037-417-103	Sequence 103, Appli
42	113	19.4	147	9	US-09-286-240-6	Sequence 6, Appli
43	113	19.4	147	9	US-09-863-777-2	Sequence 2, Appli
44	113	19.4	147	9	US-09-731-872-254	Sequence 254, Appli
45	113	19.4	147	10	US-09-876-997-254	Sequence 254, Appli

ALIGNMENTS

RESULT 1

US-09-948-391A-6
; Sequence 6, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948.391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 (recombinant)
; OTHER INFORMATION: Met(-1) RapURL)
US-09-948-391A-6

Query Match 100.0%; Score 583; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 3.7e-59;
Matches 105; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MQDWLTQKXHLNTRDVCNNIMSTNLFHCKKNTFYSRPEPVKAICKGIASKNVLT 60
|||||

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Db 1 MDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TSEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 105

RESULT 2
US-09-961-400-6
; Sequence 6, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-6

Query Match 100.0%; Score 583; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 3.7e-59;
Matches 105; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TSEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 105

RESULT 3
US-09-961-400-9
; Sequence 9, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-9
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Query Match 99.5%; Score 580; DB 10; Length 111;
Best Local Similarity 99.0%; Pred. No. 8.7e-59;
Matches 104; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 7 MDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 66
QY 61 TSEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 105
Db 67 TSEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 111

RESULT 4
US-09-961-400-2
; Sequence 2, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-2

Query Match 99.1%; Score 578; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.4e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 62 SEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVGHC 104

RESULT 5
US-09-948-391A-13
; Sequence 13, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
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; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Gln2ser
; OTHER INFORMATION: substitution (recombinant Met(-1) RapiR1 Q1S)
US-09-948-391A-13

Query Match
Best Local Similarity 99.1%; Score 578; DB 10; Length 105;
Matches 104; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MSDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 6
US-09-961-400-13
; Sequence 13, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-13

Query Match
Best Local Similarity 99.1%; Score 578; DB 10; Length 105;
Matches 104; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MSDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 7
US-09-948-391A-28
; Sequence 28, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.

; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: Rana pipiens ribonuclease (RapiR1) Clone 5a1b cDNA
; OTHER INFORMATION: insert
US-09-948-391A-28

Query Match
Best Local Similarity 99.1%; Score 578; DB 10; Length 127;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 QDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 24 QDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 83

QY 62 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 8
US-09-961-400-28
; Sequence 28, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28

Query Match
Best Local Similarity 99.1%; Score 578; DB 10; Length 127;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 QDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 24 QDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 83

QY 62 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
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Db 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 9

US-09-948-391A-11
; Sequence 11, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Gln1Ser substitution
; OTHER INFORMATION: (recombinant RapLr1 Q1S)
US-09-948-391A-11

Query Match 98.3%; Score 573; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 5.1e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 3 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTS 62
Db 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTS 61
QY 63 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 10

US-09-961-400-11
; Sequence 11, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT

; ORGANISM: Rana pipiens
US-09-961-400-11

Query Match 98.3%; Score 573; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 5.1e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 3 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTS 62
Db 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTS 61
QY 63 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 11

US-09-961-400-8
; Sequence 8, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-8

Query Match 97.8%; Score 570; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 1.1e-57;
Matches 102; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MQDLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 1 MQDLTFQKKHLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
QY 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 12

US-09-948-391A-2
; Sequence 2, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641

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; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: ribonuclease (RaPLR1)
US-09-948-391A-2

Query Match          97.6%; Score 569; DB 10; Length 104;
Best Local Similarity 99.0%; Pred. No. 1.5e-57;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db      1 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY      62 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVC 105
Db      61 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104

RESULT 13
US-09-948-391A-4
; Sequence 4, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met23leu substitution
; OTHER INFORMATION: (recombinant RaPLR1 Met23leu)
US-09-948-391A-4

Query Match          97.6%; Score 569; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 1.5e-57;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY      2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db      1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY      62 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVC 105
Db      61 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104

RESULT 14
US-09-961-400-4
; Sequence 4, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
; OTHER INFORMATION: ribonuclease (RaPLR1)
US-09-961-400-4

Query Match          97.6%; Score 569; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 1.5e-57;
Matches 102; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY      2 QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db      1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY      62 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVC 105
Db      61 SEFYLSDCNVTSPCKYKLLKKSNTFCVTCENQAPVHFVGVC 104

RESULT 15
US-09-948-391A-8
; Sequence 8, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Met24leu
; OTHER INFORMATION: substitution (recombinant Met(-1) RaPLR1 Met23leu)
US-09-948-391A-8

Query Match          96.9%; Score 565; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 4.3e-57;
Matches 102; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
```

QY	1	MODWLTFOKKHLTNTTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAI CKGI IASKNVLT	60
Db	1	MODWLTFOKKHLTNTTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAI CKGI IASKNVLT	60
QY	61	TSEFYLSDCNVTSRPCCKYK LKSTNTFCVTCENQAPVHFVG VGH C	105
Db	61	TSEFYLSDCNVTSRPCCKYK LKSTNTFCVTCENQAPVHFVG VGH C	105

Search completed: May 7, 2004, 21:51:56
Job time : 33.6904 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:38:36 ; Search time 9.5276 Seconds
(without alignments)
1060.090 Million cell updates/sec

Title: US-09-961-400-6

Perfect score: 583

Sequence: 1 MQDWLTFQKKHLNTRDVC.....TFVCVTCENQAPVHFVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR 78:*

1: pir1:*

2: pir2:*

3: pir3:*

4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	553	94.9	104	2 A39035	ribonuclease-relat
2	289	49.6	111	2 A27121	ribonuclease-relat
3	285.5	49.0	111	1 JX0120	ribonuclease-relat
4	269.5	46.2	111	2 JX0085	pancreatic ribonuc
5	149	25.6	119	2 S41111	pancreatic ribonuc
6	131	22.5	124	1 NRUI	pancreatic ribonuc
7	128	22.0	125	1 A32474	pancreatic ribonuc
8	126	21.6	128	1 NRCU	pancreatic ribonuc
9	125	21.4	124	1 NRWHK	pancreatic ribonuc
10	120	20.6	128	1 NRKS	pancreatic ribonuc
11	119.5	20.5	145	1 A35932	pancreatic ribonuc
12	119	20.4	128	1 NRGFB	pancreatic ribonuc
13	117	20.1	124	1 NRUCB	pancreatic ribonuc
14	116	19.9	125	1 B43825	pancreatic ribonuc
15	116	19.9	128	1 NRYV	pancreatic ribonuc
16	114	19.6	124	1 NRHP	pancreatic ribonuc
17	113	19.4	147	1 NRHUG	pancreatic ribonuc
18	112	19.2	124	1 NRROB	pancreatic ribonuc
19	112	19.2	124	1 NRUG	pancreatic ribonuc
20	112	19.2	150	1 NRBO	pancreatic ribonuc
21	111.5	19.1	147	2 I52489	pancreatic ribonuc
22	111	19.0	124	2 S08549	ribonuclease - dom
23	111	19.0	128	1 NRHO	pancreatic ribonuc
24	111	19.0	128	1 NRQ	pancreatic ribonuc
25	111	19.0	167	2 S20066	pancreatic ribonuc
26	110.5	19.0	123	1 A43825	pancreatic ribonuc
27	110.5	19.0	155	2 J06159	eosinophil-associa
28	109	18.7	124	1 NRSH	pancreatic ribonuc
29	109	18.7	124	1 NRPRH	pancreatic ribonuc

30	109	18.7	124	1 NRGPA	pancreatic ribonuc
31	109	18.7	124	2 S07141	pancreatic ribonuc
32	108	18.5	124	1 NRWB	pancreatic ribonuc
33	108	18.5	124	1 NRGN	pancreatic ribonuc
34	107	18.4	124	1 NRGF	pancreatic ribonuc
35	106	18.2	156	2 J06160	eosinophil-associa
36	105	18.0	124	1 NRDEO	pancreatic ribonuc
37	105	18.0	124	1 NRCM	pancreatic ribonuc
38	105	18.0	124	1 NRCM	pancreatic ribonuc
39	105	18.0	124	1 NRCMB	pancreatic ribonuc
40	105	18.0	124	1 NRCMB	pancreatic ribonuc
41	104	17.8	124	1 NRHW	pancreatic ribonuc
42	103	17.7	124	1 NRHY	pancreatic ribonuc
43	103	17.7	124	1 NRDER	pancreatic ribonuc
44	103	17.7	124	1 NRDN	pancreatic ribonuc
45	102	17.5	124	1 NREKN	pancreatic ribonuc
			124	1 NRDEF	pancreatic ribonuc

ALIGNMENTS

RESULT 1

A39035

ribonuclease-related anti-tumor protein - northern leopard frog (fragment)

C:Species: Rana pipiens (northern leopard frog)

C:Date: 31-Jul-1991 #sequence_revision 31-Jul-1991 #text_change 30-Jun-1993

C:Accession: A39035

R:Ardelt, W.; Mikulecki, S.M.; Shogen, K.

J. Biol. Chem. 266, 245-251, 1991

A:Title: Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and earl

A:Reference number: A39035; MUID:91093131; PMID:1985896

A:Accession: A39035

A:Status: preliminary

A:Molecule type: protein

A:Residues: 1-104 <ARD>

C:Superfamily: pancreatic ribonuclease

Query Match 94.9%; Score 553; DB 2; Length 104;

Best Local Similarity 95.2%; Pred. No. 1.2e-48;

Matches 99; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY	2	QDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT	61
DB	1	EDWLTQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT	60
QY	62	SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC	105
DB	61	SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGHC	104

RESULT 2

A27121

ribonuclease-related sialic acid-binding lectin - bullfrog

C:Species: Rana catesbeiana (bullfrog)

C:Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 30-Jun-1993

C:Accession: A27121

R:Titani, K.; Takio, K.; Kuwada, M.; Nitta, K.; Sakakibara, F.; Takayanagi

Biochemistry 26, 2189-2194, 1987

A:Title: Amino acid sequence of sialic acid-binding lectin from frog (Rana catesbeiana)

A:Reference number: A27121; MUID:87299649; PMID:3304421

A:Accession: A27121

A:Molecule type: protein

A:Residues: 1-111 <TIT>

C:Superfamily: pancreatic ribonuclease

C:Keywords: lectin

Query Match 49.6%; Score 289; DB 2; Length 111;

Best Local Similarity 48.6%; Pred. No. 4.4e-22;

Matches 54; Conservative 17; Mismatches 32; Indels 8; Gaps 3;

QY	2	QDWLTFQKKHLNTRDVCNNIMSTNLF-----HCKDKNTFIYSRPEPVKAICKGIASKN	57
DB	1	ENWATFOQKHINTPIINCNTIMDNIIYVGQCKRNTFIISSTATTVAICTGVI-NNN	59

```

C;Species: Iguana iguana (common iguana)
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 21-Aug-1998
C;Accession: S41111
R;Zhao, W.; Beintema, J.J.; Hofsteenge, J.
Eur. J. Biochem. 219, 641-646, 1994
A;Title: The amino acid sequence of iguana (Iguana iguana) pancreatic ribonuclease.
A;Reference number: S41111; MUID:94139745; PMID:8307028
A;Accession: S41111
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-119 <ZHA>
C;Superfamily: pancreatic ribonuclease

Query Match          25.6%; Score 149; DB 2; Length 119;
Best Local Similarity 30.7%; Pred. No. 5.7e-08;
Matches 35; Conservative 19; Mismatches 44; Indels 16; Gaps 5;

QY      2 QDWLTFQKKHL-----TNTRDVDCNNIM---STNLFHCKDKNTFIYGRPEPVKAIC--K 50
DB      1 QDWSFQNKHIDYPTASNPAYCDLMMQRRNLNPTCKRTNTFVHASPEIQVCGSG 60
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY      51 GIASKNVLTTSF-FYLSDC-----NVTGRPKYKLLKSTNTFCVTCENQAPVHF 99
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      61 GTHYEDNLYDSNESFLDTCKNVGTSPPSSKYNKINGTPTGKIRIACENNQPVHF 114
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

RESULT 6
NRUI
pancreatic ribonuclease (EC 3.1.1.27.5) - cuis
N;Alternate names: RNase 1; RNase A
C;Species: Galea musteloides (cuis)
C;Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 04-Oct-1996
C;Accession: A00827
R;Beintema, J.J.; Neuteboom, B.
J. Mol. Evol. 19, 145-152, 1983
A;Title: Origin of the duplicated ribonuclease gene in guinea-pig: comparison of the
A;Reference number: A92957; MUID:87036770; PMID:6571219
A;Accession: A00827
A;Molecule type: protein
A;Residues: 1-124 <BEI>
A;Note: about one-third of the molecules lacked Ala-1
C;Comment: The cuis is a rodent belonging to the same subfamily as the guinea pig.
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;94/Binding site: carbohydrate (Asn) (covalent) #status absent

Query Match          22.5%; Score 131; DB 1; Length 124;
Best Local Similarity 30.6%; Pred. No. 3.9e-06;
Matches 37; Conservative 18; Mismatches 34; Indels 32; Gaps 7;

QY      5 LTFQKKHL-----TNTRDVDCNNIM---STNLFHCKDKNTFIYSRPEPVKAICKGIIA 54
DB      6 MKFQRQHMDSGHPDNTN--YCENMVPVRSMTQGRCKPEVNTFVHEPLEAVQAVC----S 59
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY      55 SKNV-----LTTSPFLSDCNVTGRP-----CKYKLLKSTNTFCVTCEN--QAPVH 98
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      60 QKNVPCKNGQTNCYQSHSSMRITDCRVTSKYPKNCVSRMTQAKSIIVACEGTSPVHF 119
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      99 F 99
DB      120 F 120

RESULT 7
A32474
angiogenin [validated] - bovine
N;Alternate names: angiogenesis factor
N;Contains: ribonuclease (EC 3.1.27.-)
C;Species: Bos primigenius taurus (cattle)
C;Date: 25-Sep-1989 #sequence_revision 25-Sep-1989 #text_change 15-Sep-2000
A;Accession: A32474; S02001; A30044; S48212

```

R;Bond, M.D.; Strydom, D.J.
 Biochemistry 28, 6110-6113, 1989
 A:Title: Amino acid sequence of bovine angiogenin.
 A:Reference number: A32474; MUID:89375344; PMID:2775757
 A:Accession: A32474
 A:Molecule type: protein
 A:Residues: 1-125 <BON>
 A:Experimental source: plasma
 R;Maes, P.; Damart, D.; Rommens, C.; Montreuil, J.; Spik, G.; Tartar, A.
 FEBS Lett. 241, 41-45, 1988
 A:Title: The complete amino acid sequence of bovine milk angiogenin.
 A:Reference number: S02003; MUID:8965101; PMID:3197838
 A:Accession: S02001
 A:Molecule type: protein
 A:Residues: 1-125 <MAE>
 A:Experimental source: milk
 R;Acharya, K.R.; Shapiro, R.; Riordan, J.F.; Vallee, B.L.
 submitted to the Brookhaven Protein Data Bank, January 1995
 A:Reference number: A65065; PDB:1AG1
 A:Contents: annotation; X-ray crystallography, 1.5 angstroms, residues 1-125
 R;Acharya, K.R.; Shapiro, R.; Riordan, J.F.; Vallee, B.L.
 Proc. Natl. Acad. Sci. U.S.A. 92, 2949-2953, 1995
 A:Title: Crystal structure of bovine angiogenin at 1.5 Angstroms resolution.
 A:Reference number: A58315; MUID:95224057; PMID:7708754
 A:Contents: annotation; X-ray crystallography, 1.5 angstroms
 R;Lequin, O.; Albaret, C.; Bontems, F.; Spik, G.; Lallemand, J.Y.
 submitted to the Brookhaven Protein Data Bank, April 1996
 A:Reference number: A65709; PDB:1G10
 A:Contents: annotation; conformation by (1)H-NMR, residues 1-125
 R;Lequin, O.; Albaret, C.; Bontems, F.; Spik, G.; Lallemand, J.Y.
 Biochemistry 35, 8870-8880, 1996
 A:Title: Solution structure of bovine angiogenin by (1)H nuclear magnetic resonance spectroscopy.
 A:Reference number: A58821; MUID:96280645; PMID:8688423
 A:Contents: annotation; conformation by (1)H-NMR
 R;Reisdorf, C.; Abergel, D.; Bontems, F.; Lallemand, J.Y.; Decottignies, J.P.; Spik, G.
 Eur. J. Biochem. 224, 811-822, 1994
 A:Title: Proton resonance assignments and secondary structure of bovine angiogenin.
 A:Reference number: S48212; MUID:95010071; PMID:7925406
 A:Contents: annotation; conformation by (1)H-NMR
 C:Function:
 A:Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: angio genesis; hydrolase; nucleic acid degradation
 F:60-68/Region: receptor binding #status predicted
 F:14,41,115/Active site: His, Lys, His #status predicted
 F:27-82,40-93,58-108/Disulfide bonds: #status experimental

Query Match 22.0%; Score 128; DB 1; Length 125;
 Best Local Similarity 34.0%; Pred. No. 7.8e-06;
 Matches 33; Conservative 14; Mismatches 32; Indels 18; Gaps 5;
 Db 17 DVDCNNIMSTNLF--HCKDKNTFIYSRPEPVKAICKGIISKV 66
 Db 24 DEYCFNMKNRLTRPCDKRNTFIHGNKNDIKACE-----DRNGQYRGDLISKSEFQI 79
 QY 67 SDC---NVTSR--PCYKLLKSTNTFCVTCENQAPVHF 99
 Db 80 TTKCKHGSSRPPRCYRGATEDSRVIVGCGNGLPVHF 116

RESULT 8
 NRCU
 pancreatic ribonuclease (EC 3.1.27.5) - nutria (tentative sequence)
 N:Alternate names: RNase 1; RNase A
 C:Species: Myocastor coypus (nutria, coypu)
 C:Date: 24-Apr-1984 #sequence_revision 30-Sep-1988 #text_change 31-Mar-2000
 C:Accession: A00822
 R:van den Berg, A.; van den Hende-Timmer, L.; Beintema, J.J.
 Biochim. Biophys. Acta 453, 400-409, 1976
 A:Title: Isolation, properties and primary structure of coypu and chinchilla pancreatic
 A:Reference number: A90612; MUID:77065676; PMID:999896
 A:Accession: A00822
 A:Molecule type: protein

A:Residues: 1-128 <VAN>
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F:12,41,119/Active site: His, Lys, His #status predicted
 F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F:34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 21.6%; Score 126; DB 1; Length 128;
 Best Local Similarity 29.9%; Pred. No. 1.3e-05;
 Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;
 Db 7 FOKKHL-----TNRDVCNNIM-STNLF--HCKDKNTFIYSRPEPVKAICKGIISKV 58
 Db 8 FERQHMDSRGSPTNPNYCNEMKSRNMTQGRCKPVTVEHPLADVQAVC-----FOKNV 63
 QY 59 L-----TTSFYLSDCNVTSRP-----CKYKLLKSTNTFCVTCENQ--APVHF 99
 Db 64 LCKNGQTCYQSNMNHITDCRVTSNDSYPNCYSRTSQBEKSIIVACEGNPYVPVHF 120

RESULT 9
 NRWHK
 pancreatic ribonuclease (EC 3.1.27.5) - minke whale
 N:Alternate names: RNase 1; RNase A
 C:Species: Balaeoptera acutorostrata (minke whale, lesser rorqual)
 C:Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 03-Jun-1994
 C:Accession: A00818
 R:Emmens, M.; Welling, G.W.; Beintema, J.J.
 Biochem. J. 157, 317-323, 1976
 A:Title: The amino acid sequence of pike whale (lesser rorqual) pancreatic ribonuclease.
 A:Reference number: A00818; MUID:76277855; PMID:962870
 A:Accession: A00818
 A:Molecule type: protein
 A:Residues: 1-124 <EMW>
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F:12,41,119/Active site: His, Lys, His #status predicted
 F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F:76/Binding site: carbohydrate (Asn) (covalent) (partial) #status experimental

Query Match 21.4%; Score 125; DB 1; Length 124;
 Best Local Similarity 28.6%; Pred. No. 1.5e-05;
 Matches 34; Conservative 15; Mismatches 42; Indels 28; Gaps 6;
 Db 5 LTFQKHLNTRDVD-----CNNIMSTNLF---HCKDKNTFIYSRPEPVKAICKGIISKV 56
 Db 6 MKFQHQHDSGNSPGNNPNYCNQMMRRKMTQGRCKPVTVEHSLDVAVC-----SQK 61
 QY 57 NVL-----TTSFYLSDCNVTSRP-----CKYKLLKSTNTFCVTCENQ--APVHF 99
 Db 62 NVLCKNGRNCVCSNSTWHITDCRGTGSSKYPNCAKTSQKEKHIIIVACEGNPYVPVHF 120

RESULT 10
 NRKS
 pancreatic ribonuclease (EC 3.1.27.5) - casiragua
 C:Species: Proechimys guairae (casiragua)
 C:Date: 17-Mar-1987 #sequence_revision 17-Mar-1987 #text_change 30-Sep-1993
 C:Accession: A00821
 R:Beintema, J.J.; Knol, G.; Martena, B.
 Biochim. Biophys. Acta 705, 102-110, 1982
 A:Title: The primary structures of pancreatic ribonucleases from African porcupine and C.
 A:Reference number: A90644; MUID:83000399; PMID:7115727
 A:Accession: A00821
 A:Molecule type: protein
 A:Residues: 1-128 <BEI>
 A>Note: residues 67-78 were positioned primarily by homology with other ribonucleases
 C:Superfamily: pancreatic ribonuclease
 C:Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F:12,41,119/Active site: His, Lys, His #status predicted
 F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F:34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 20.6%; Score 120; DB 1; Length 128;
Best Local Similarity 29.8%; Pred. No. 5.1e-05;
Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;
QY 7 FQKKHL-----TNRDVCNNIM--STNLF--HCKDKNTFIYSRPEPVKAICKGIASKNV 58
Db 8 FQCHIDSSGSPSTPNYCNAMKSRNMTQERCKPVNTFVHEPLADVQAVC-----FQKNV 63
QY 59 -----LTTSEFVLSDCNVTSR-----PCYKLUKKSNTTFCVTCENQ--APVHF 99
Db 64 PCKGOSNCYESTSNMHTDCLRTSLTSKFPDCLYRTSQEKSIIIVACEGPNYPVVFH 120

RESULT 11
A35932
angiogenin precursor - mouse
N;Alternate names: angiogenesis factor
N;Contains: ribonuclease (EC 3.1.1.27.-)
C;Species: Mus musculus (house mouse)
C;Date: 09-Nov-1990 #sequence_revision 09-Nov-1990 #text_change 18-Jun-1999
C;Accession: A35932
R;Bond, M.D.; Vallee, B.L.
Biochem. Biophys. Res. Commun. 171, 988-995, 1990
A;Title: Isolation and sequencing of mouse angiogenin DNA.
A;Reference number: A35932; MUID:91025023; PMID:2222458
A;Accession: A35932
A;Status: not compared with conceptual translation
A;Molecule type: DNA
A;Residues: 1-145 <BON>
A;Cross-references: GB:U22516; NID:g726325; PIDN:AAA91366.1; PID:g726326
C;Genetics:
A;Introns: #status absent
C;Function:
A;Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
C;Superfamily: pancreatic ribonuclease
C;Keywords: angiogenesis; hydrolase; nucleic acid degradation; pyroglutamic acid
F;1-24/Domain: signal sequence #status predicted <SIG>
F;15-145/Product: angiogenin #status predicted <MAT>
F;25/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted
F;37,64,137/Active site: His, Lys, His #status predicted
F;50-104,63-115,81-130/Disulfide bonds: #status predicted

Query Match 20.5%; Score 119.5; DB 1; Length 145;
Best Local Similarity 30.8%; Pred. No. 6.5e-05;
Matches 33; Conservative 12; Mismatches 45; Indels 17; Gaps 5;
QY 10 KHLTNRDVC-----CNNIMSTNLF--HCKDKNTFIYSRPEPVKAIC--KGIIASKN 57
Db 32 KFLTQHDAKPKGRDRYCRMMKRSLSLTPCKDVNTFIHGKSNIAKICGANGSPYREN 91
QY 58 V-LTTSEFVLSDCNVTIS-----RCKYKLUKKSNTTFCVTCENQAPVHF 99
Db 92 LRMSKSPFQVTTCKHTGSGRPPCCQVRASAGFRHVVIACENGLFVHF 138

RESULT 12
NRGPB
pancreatic ribonuclease (EC 3.1.1.27.5) B - guinea pig (tentative sequence)
N;Alternate names: RNase IB
C;Species: Cavia porcellus (guinea pig)
C;Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 31-Mar-2000
C;Accession: A00826
R;van den Berg, A.; van den Hende-Timmer, L.; Hofsteenge, J.; Gastra, W.; Beintema, J.J.
Eur. J. Biochem. 75, 91-100, 1977
A;Title: Guinea pig pancreatic ribonucleases. Isolation, properties, primary structure
A;Reference number: A91247; MUID:77185023; PMID:862624
A;Accession: A00826
A;Molecule type: protein
A;Residues: 1-128 <VAN>
A;Note: 64-Pro was also found
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted

F;21,34/Binding site: carbohydrate (Asn) (covalent) #status experimental
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
Query Match 20.4%; Score 119; DB 1; Length 128;
Best Local Similarity 28.3%; Pred. No. 6.4e-05;
Matches 34; Conservative 21; Mismatches 35; Indels 30; Gaps 7;
QY 5 LTFQKKHL-----TNRDVCNNIM--STNLFHCKDKNTFIYSRPEPVKAICKGIAS 55
Db 6 MKFQROHMDPEGSFSSNY--CNVMIRRMNTQGRCKPVNTFVHESLADVQAVC-----FQ 60
QY 56 KNVL-----LTTSEFVLSDCNVTSRP-----CKYKLUKKSNTTFCVTCENQ--APVHF 99
Db 61 KNVLCNKGQTCNQCYSRMRITDCTSSSKFPCNCSYRMSQAKSIIIVACEGPNYPVVFH 120

RESULT 13

NRCB

pancreatic ribonuclease (EC 3.1.1.27.5) - Chinchilla brevicauda (tentative sequence)
N;Alternate names: RNase 1; RNase A
C;Species: Chinchilla brevicauda, Chinchilla lanigera brevicauda
C;Date: 24-Apr-1984 #sequence_revision 30-Sep-1988 #text_change 31-Mar-2000
C;Accession: A00820
R;van den Berg, A.; van den Hende-Timmer, L.; Beintema, J.J.
Biochim. Biophys. Acta 453, 400-409, 1976
A;Title: Isolation, properties and primary structure of coypu and chinchilla pancreatic
A;Reference number: A90612; MUID:77065676; PMID:99896
A;Accession: A00820
A;Molecule type: protein
A;Residues: 1-124 <VAN>
A;Note: a second component of chinchilla ribonuclease has 32-Asp

C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 20.1%; Score 117; DB 1; Length 124;
Best Local Similarity 26.8%; Pred. No. 9.9e-05;
Matches 32; Conservative 19; Mismatches 40; Indels 28; Gaps 6;
QY 5 LTFQKKHL-----TNRDVCNNIM--STNLFHCKDKNTFIYSRPEPVKAICKGIASK 56
Db 6 MKFQROHMDSSGSPSTNANYCNEMKGRNMTQGRCKPVNTFVHEPLADVQAVC-----FQK 61
QY 57 NV-----LTTSEFVLSDCNVTSRP-----CKYKLUKKSNTTFCVTCENQ--APVHF 99
Db 62 NVPCKNQSNQYQSNMHTDCLRTSLTSKYPNCSYRTSRENKGIIVACEGPNYPVVFH 120

RESULT 14

B43825

angiogenin - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S29833; B43825
R;Bond, M.D.; Strydom, D.J.; Vallee, B.L.
Biochim. Biophys. Acta 1162, 177-186, 1993
A;Title: Characterization and sequencing of rabbit, pig and mouse angiogenins: discerne
A;Reference number: S29833; MUID:93192291; PMID:8448182
A;Accession: S29833
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-125 <BON>

A;Note: submitted to the Protein Sequence Database, December 1992
C;Superfamily: pancreatic ribonuclease
C;Keywords: pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match 19.9%; Score 116; DB 1; Length 125;
Best Local Similarity 31.2%; Pred. No. 0.00013;
Matches 24; Conservative 13; Mismatches 32; Indels 8; Gaps 3;

QY 31 CKDKNTFIYSRPEPVKAICK---GITASKNV-ITTFEYLSDCNVTS-----RFECKYKLLK 82
||| |||: : : : : ||| : : : : : ||| : : : : :
Db 39 CKDTNTFVHGNGKSIKDVCEDKNGKPYGKNFRISKSFQVTTCKHVGGSPPPCRYRATS 98
||| |||: : : : : ||| : : : : : ||| : : : : :
QY 83 STNTFCVTCENQAPVHF 99
: : : : :
Db 99 GSRNIVACENGLFVHF 115
: : : : :

RESULT 15

NRYV
pancreatic ribonuclease (EC 3.1.27.5) - capybara
N:Alternate names: RNase 1, RNase A
C:Species: Hydrochaeris hydrochaeris (capybara, carpincho)
C:Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 29-Oct-1999
C:Accession: A00824
R:Beintema, J.J.; Neuteboom, B.
J. Mol. Evol. 19, 145-152, 1983
A:Title: Origin of the duplicated ribonuclease gene in guinea-pig: comparison of the ami
A:Reference number: A92957; MUID:87036770; PMID:6571219
A:Accession: A00824
A:Molecule type: protein
A:Residues: 1-128 <BEI>
C:Superfamily: pancreatic ribonuclease
C:Keywords: hydrolase; nucleic acid digestion; pancreas
F:12,41,119/Active site: His, Lys, His #status predicted
F:26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted

Query Match 19.9%; Score 116; DB 1; Length 128;
Best Local Similarity 27.8%; Pred. No. 0.00013;
Matches 32; Conservative 21; Mismatches 42; Indels 20; Gaps 6;

QY 5 LTFQKKHL-----TNRDVCNNIMSTNLF---HCKDKNTFIYSRPEPVKAIC-KGIAS 55
: |||: : : : : ||| : : : : : ||| : : : : :
Db 6 MKFQCHVDSEGSSSSNANYCNEMVRRKMTQDRCKPVNTFVHEPLADYQAVCFQKNVPC 65
: |||: : : : : ||| : : : : : ||| : : : : :
QY 56 KNVLT-----SEFYLSDCNVTSR-----PCKYKLLKSTNTFCVTCENQ--APVHF 99
||| |||: : : : : ||| : : : : : ||| : : : : :
Db 66 KNGQTCYQSYSSMHITDCRVTSNSKFPDCSVRTQAKSIIVVACEGNLYVPVHF 120
||| |||: : : : : ||| : : : : : ||| : : : : :

Search completed: May 7, 2004, 21:54:53
Job time : 9.5276 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:30:40 ; Search time 5.30402 Seconds
(without alignments)
1030.796 Million cell updates/sec

Title: US-09-961-400-6

Perfect score: 583

Sequence: 1 MQDWLTFQKKHLNTRDVDC.....TFCVTCENQAPVHFVGVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	556	95.4	104	1	RN30_RANPI
2	292	50.1	133	1	RN30_RANCA
3	285.5	49.0	111	1	LECS_RANJA
4	269.5	46.2	111	1	RNPL_RANCA
5	149	25.6	119	1	RNP_IGUG
6	131	22.5	124	1	RNP_GALMU
7	130.5	22.4	145	1	ANGR_MOUSE
8	130.5	22.4	146	1	ANGI_CERAE
9	128	22.0	148	1	ANGI_BOVIN
10	126	21.6	124	1	RNP_MYOCO
11	125	21.4	124	1	RNP_BALAC
12	121.5	20.8	146	1	ANGI_MACMU
13	120	20.6	128	1	RNP_PROGU
14	119.5	20.5	145	1	ANGI_MOUSE
15	119	20.4	128	1	RNPB_CAVPO
16	118.5	20.3	146	1	ANGI_PAPHA
17	117	20.1	124	1	RNP_CHIBR
18	116	19.9	125	1	ANGI_RABIT
19	116	19.9	128	1	RNP_HYDHY
20	114	19.6	124	1	RNP_HIPAM
21	114	19.6	146	1	ANGI_MIOIA
22	113.5	19.5	147	1	RNS4_PANTR
23	113	19.4	147	1	ANGI_HUMAN
24	113	19.4	147	1	ANGI_PANTR
25	112	19.2	124	1	RNP_PIG
26	112	19.2	150	1	RNP_BOVIN
27	112	19.2	156	1	RNP_MYOGL
28	111.5	19.1	147	1	RNS4_HUMAN
29	111	19.0	128	1	RNP_HORSE
30	111	19.0	128	1	RNP_HYSCR
31	111	19.0	156	1	ECF3_MOUSE
32	111	19.0	167	1	RNBR_BOVIN
33	110.5	19.0	123	1	ANGI_PIG

34	110.5	19.0	155	1	ECPI_MOUSE
35	110	18.9	141	1	RNBR_GIRCA
36	110	18.9	146	1	ANGI_SAGOE
37	110	18.9	151	1	RNBR_AXIPR
38	109	18.7	123	1	ANG2_BOVIN
39	109	18.7	124	1	RNPA_CAVPO
40	109	18.7	124	1	RNP_AEPWE
41	109	18.7	124	1	RNP_ANTAM
42	109	18.7	124	1	RNP_SHEEP
43	109	18.7	146	1	ANGI_SAISC
44	108.5	18.6	150	1	RNS6_SAISC
45	108	18.5	124	1	RNP_BUBBU

P97426 mus musculus
Q29542 giraffa cam
Q8wn62 saguinus oe
P87350 axis porcin
P80929 bos taurus
P00678 cavia porce
P07847 aepyceros m
P00668 antilocapra
P00661 ovis aries
Q8wn60 saimiri sci
O46529 saimiri sci
P00657 bubalus bub

ALIGNMENTS

RESULT 1
RN30_RANPI STANDARD; PRT; 104 AA.
AC P22069;
DT 01-AUG-1991 (Rel. 19, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE P-30 protein (EC 3.1.27.-) (Onconase).
OS Rana pipiens (Northern leopard frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Rana.
OX NCBI_TaxID=8404;
RN [1]
RP SEQUENCE.
RC TISSUE=Embryo;
RX MEDLINE=91093131; PubMed=1985896;
RA Ardel W., Mikulski S.M., Shogen K.;
RT "Amino acid sequence of an anti-tumor protein from Rana pipiens
oocytes and early embryos. Homology to pancreatic ribonucleases.";
RL J. Biol. Chem. 266:245-251(1991).
RN [2]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=93066156; PubMed=1438177;
RA Mosimann S.C., Johns K.L., Ardel W., Mikulski S.M., Shogen K.,
James M.N.G.;
RT "Comparative molecular modeling and crystallization of P-30 protein:
a novel antitumor protein of Rana pipiens oocytes and early
embryos.";
RL Proteins 14:392-400(1992).
RN [3]
RP X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).
RX MEDLINE=94166079; PubMed=8120892;
RA Mosimann S.C., Ardel W., James M.N.G.;
RT "Refined 1.7 A X-ray crystallographic structure of P-30 protein, an
amphibian ribonuclease with anti-tumor activity.";
J. Mol. Biol. 236:1141-1153(1994).
CC -!- FUNCTION: Basic protein with antiproliferative/cytotoxic activity
against several tumor cell lines in vitro, as well as antitumor
in vivo. It exhibits a ribonuclease-like activity against high
molecular weight ribosomal RNA.
CC -!- DEVELOPMENTAL STAGE: Early embryos (up to four blastomere stage).
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
PDB; 1ONC; 31-JAN-94.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnaaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; 3D-structure;
PYRrolidone carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 10 10
FT ACT_SITE 31 31
FT ACT_SITE 97 97
FT DISULFID 19 68
FT DISULFID 30 75


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QY 2 QDWLTFOKKHLTNTDVCNNIMSTNLF----HCKDKNTFYISRPVPAKCKGIIASKN 57
Db 23 QNWATFOKKHLTNTDVCNNIMSTNLF----HCKDKNTFYISRPVPAKCKGIIASKN 81
QY 58 VLTTSFYLSDC---NVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 82 VLSSTRFQNLTCIRSATPCPNYSRTETNVCVCKENRPLVHFAGIGRC 132

RESULT 3
LECS_RANJA
ID LECs_RANJA STANDARD; PRT; 111 AA.
AC P18839;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Sialic acid-binding lectin (EC 3.1.27.-).
OS Rana japonica (Japanese redbellied frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
OX NCBI_TaxID=8402;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Egg;
RX MEDLINE=91035319; PubMed=2229005;
RA Kamiya Y., Oyama F., Oyama R., Sakakibara F., Nitta K., Kawauchi H.,
RA Takayanagi Y., Titani K.;
RT "Amino acid sequence of a lectin from Japanese frog (Rana japonica)
RT eggs.";
RL J. Biochem. 108:139-143(1990).
CC -!- FUNCTION: The S-lectins in frog eggs may be involved in the
CC fertilization and development of the frog embryo. This lectin
CC preferentially agglutinate a large variety of tumor cells, but it
CC does not agglutinate non-transformed cells and erythrocytes.
CC -!- SUBUNIT: Monomer.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; JX0120; JX0120.
DR HSSP; P11916; LBC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNaseA; 1.
DR PROSITE; PS00127; RNaseA; 1.
DR PROSITE; PS00127; RNaseA; 1.
KW Hydroxylase; Nuclease; Endonuclease; Pyridoxal phosphate; Pyridoxal
KW Pyridoxal phosphate; Pyridoxal phosphate; Pyridoxal phosphate; Pyridoxal
FT MOD RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT SITE 10 10 BY SIMILARITY.
FT ACT SITE 35 35 BY SIMILARITY.
FT ACT SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12326 MW; FDEBDDF3834ED679 CRC64;

Query Match 49.0%; Score 285.5; DB 1; Length 111;
Best Local Similarity 45.0%; Pred. No. 8.4e-24;
Matches 50; Conservative 19; Mismatches 35; Indels 7; Gaps 2;

QY 2 QDWLTFOKKHLTNTDVCNNIMSTNLF----HCKDKNTFYISRPVPAKCKGIIASKN 57
Db 1 QNWATFOKKHLTNTDVCNNIMSTNLF----HCKDKNTFYISRPVPAKCKGIIASKN 60
QY 58 VLTTSFYLSDC---NVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 61 VLSSTRFQNLTCIRSATPCPNYSRTETNVCVCKENRPLVHFAGIGRC 111

RESULT 4
RNPL_RANJA
ID RNPL_RANJA STANDARD; PRT; 111 AA.
AC P14626;

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DT 01-APR-1990 (Rel. 14, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease, liver (EC 3.1.27.5).
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP SEQUENCE.
RC TISSUE=Liver;
RX MEDLINE=90130374; PubMed=2613682;
RA Nitta R., Katayama N., Okabe Y., Iwama M., Watanabe H., Abe Y.,
RA Okazaki T., Ohgi K., Irie M.;
RT "Primary structure of a ribonuclease from bullfrog (Rana catesbeiana)
RT liver.";
RL J. Biochem. 106:729-735(1989).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; JX0085; JX0085.
DR HSSP; P11916; LBC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNaseA; 1.
DR PROSITE; PS00127; RNaseA; 1.
DR PROSITE; PS00127; RNaseA; 1.
KW Hydroxylase; Nuclease; Endonuclease; Pyridoxal phosphate; Pyridoxal
KW Pyridoxal phosphate; Pyridoxal phosphate; Pyridoxal phosphate; Pyridoxal
FT MOD RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT SITE 10 10 BY SIMILARITY.
FT ACT SITE 35 35 BY SIMILARITY.
FT ACT SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12461 MW; D64BA72456C10788 CRC64;

Query Match 46.2%; Score 269.5; DB 1; Length 111;
Best Local Similarity 43.2%; Pred. No. 4.3e-22;
Matches 48; Conservative 19; Mismatches 37; Indels 7; Gaps 2;

QY 2 QDWLTFOKKHLTNTDVCNNIMSTNLF----HCKDKNTFYISRPVPAKCKGIIASKN 57
Db 1 QNWATFOKKHLTNTDVCNNIMSTNLF----HCKDKNTFYISRPVPAKCKGIIASKN 60
QY 58 VLTTSFYLSDC---NVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 61 VLSSTRFQNLTCIRSATPCPNYSRTETNVCVCKENRPLVHFAGIGRC 111

RESULT 5
RNP_IGUG
ID RNP_IGUG STANDARD; PRT; 119 AA.
AC P80287;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase A).
OS Igana iguana (Common iguana).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Iguania; Iguanidae; Iguaninae; Iguana.
OX NCBI_TaxID=8517;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=94139745; PubMed=8307028;
RA Zhao W., Beintema J.J., Hofsteenge J.;
RT "The amino acid sequence of iguana (Iguana iguana) pancreatic
RT ribonuclease.";
RL Eur. J. Biochem. 219:641-646(1994).

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FT	DISULFID	26	84	BY SIMILARITY.
FT	DISULFID	40	95	BY SIMILARITY.
FT	DISULFID	58	110	BY SIMILARITY.
FT	DISULFID	65	72	BY SIMILARITY.
FT	ACT SITE	12	12	BY SIMILARITY.
FT	ACT SITE	41	41	BY SIMILARITY.
FT	ACT SITE	119	119	BY SIMILARITY.
FT	VARIANT	1	1	MISSING (IN 1/3 OF THE MOLECULES).
SEQ	SEQUENCE	124 AA;	13870 MW; 609C7E251A7BBA25 CRC64;	

Query Match 22.5%; Score 131; DB 1; Length 124;
Best Local Similarity 30.6%; Pred.No.3.le-07;
Matches 37; Conservative 18; Mismatches 34; Indels 32; Gaps 7;

QY	5	LTQKHL	-----TNTRDVDCNNIM---STNLFHCKDKNTFIYSRPPVKAICKGIIA 54
DB	6	MKFORQHDSDGHPDNTN	---YCNEMVRSMTQGRCKPNVTFVHEPLEAVQVC-----S 59
QY	55	SKNV	-----LTTSEFYLSDCNVTSRP-----CKYKUKKSNTFTCVTCEN--QAPVH 98
DB	60	QKNVPCKNGQINCVOQSHSMRITDCRVTSKSKVPNCYSRMTQAKSIIVACEGTPSPVPH 119	
QY	99	F 99	:
DB	120	F 120	:

RESULT 7
ANGR_MOUSE STANDARD; PRT; 145 AA.
ID ANGR_MOUSE
AC Q64438;
RC 01-NOV-1997 (Rel. 35, Created)
RX MEDLINE=96079109; PubMed=8530072;
RA Brown W.E., Noble V., Subramanian V., Shapiro R.;
RT "The mouse angiotensin gene family; structures of an angiotensin-related protein gene and two pseudogenes";
RL Genomics 29:200-206(1995)
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation at the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announcement> or send an email to license@isb-sib.ch).
CC EMBL; U22519; AAA91367.1; .
CC HSSP; P03950; 1A4Y.
CC MGD; MGI:104984; AngRP.
CC InterPro; IPR001427; RNaseA.
CC Pfam; PF00074; rnasea; 1.
CC PRINTS; PR00794; RIBONUCLEASE.
CC ProDom; PD000535; RNaseA; 1.
CC SMART; SM00092; RNase PC; 1.
CC PROSITE; PS00127; RNASE_PANCREATIC; 1.
CC Signal; Hydrolase; Nuclease; Endonuclease;
CC Pyrolysine carboxylic acid.
CC SIGNAL 1 24 POTENTIAL.
CC FT CHAIN 25 145 ANGIOGENIN-RELATED PROTEIN.
CC FT MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
CC FT SIMILARITY) FT

FT	ACT_SITE	37	37	BY SIMILARITY.
FT	ACT_SITE	64	64	BY SIMILARITY.
FT	ACT_SITE	138	138	BY SIMILARITY.
FT	DISULFID	50	105	BY SIMILARITY.
FT	DISULFID	63	116	BY SIMILARITY.
FT	DISULFID	81	131	BY SIMILARITY.
SQ	SEQUENCE	146 AA;	16444 MW; 27860112E85B8DF9	CRC64;
Query Match				
Best Local Similarity 22.4%; Score 130.5; DB 1; Length 146;				
Matches 31; Conservative 17; Mismatches 30; Indels 23; Gaps 4;				
Qy	6	TFQKHLLTNRD	VDCNNIMSTNLPHCKDKKTFYISRPVKAIC---	KGIASKNV-LTT 61
		:: ::	:: ::	:::::
Db	53	TMRRRLTSP-----	CKDINTFIHGNRRHHKACG	DENGPNFYGENLRISK 97
Qy	62	SEFVLSDCNVTs----	RPCKYKLKKSNTNTFCVT	CENQAPVH 98
		:: ::	:: ::	:::::
Db	98	SPFQVITCNLRGSGPRPP	CCOYRATRGSRNIVVCGENGLPVH	138

RESULT 9
ANGI BOVIN
ID ANGI BOVIN STANDARD; PRT; 148 AA.
AC P10152; Q9CKP9;
DT 01-MAR-1989 (Rel. 10, Created)
DT 28-FEB-2003 (Rel. 41, last sequence update)
DT 15-MAR-2004 (Rel. 43, last annotation update)
DE Angiogenin-1 precursor (EC 3.1.1.27.-).
OS ANGI OR ANG.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
OC Bovidae; Bovinae; Bos.
OX NCBI TaxID=9913;
ON [1]
OS SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Chang S.-I.;
RL "Cloning, sequencing, and expression of bovine angiogenin.";
RN Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
[2]
RN SEQUENCE OF 24-148.
RC TISSUE=Milk;
RX MEDLINE=89065101; PubMed=3197838;
RA Maes P., Damart D., Rommens C., Montreuil J., Spik G., Tartar A.;
RL "The complete amino acid sequence of bovine milk angiogenin.";
RN FEBS Lett. 241:41-45(1988).
[3]
RN SEQUENCE OF 24-148.
RC TISSUE=Plasma;
RX MEDLINE=89375344; PubMed=2775757;
RA Bond M.D., Strydom D.J.;
RL "Amino acid sequence of bovine angiogenin.";
RN Biochemistry 28:6110-6113(1989).
[4]
RC CHARACTERIZATION, AND SEQUENCE OF 25-55.
TX TISSUE=Plasma;
RX MEDLINE=89118214; PubMed=3064806;
RA Bond M.D., Vallee B.L.;
RL "Isolation of bovine angiogenin using a placental ribonuclease
RT inhibitor binding assay.";
RN Biochemistry 27:6282-6287(1988).
[5]
RN X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS).
RP MEDLINE=95224057; PubMed=7708754;
RA Acharya K.R., Shapiro R., Riordan J.F., Vallee B.L.;
RT "Crystal structure of bovine angiogenin at 1.5-A resolution.";
RN Proc. Natl. Acad. Sci. U.S.A. 92:2949-2953(1995).
[6]
RT STRUCTURE BY NMR.
RP MEDLINE=96280645; PubMed=8684823;
RA Leguin O., Albaret C., Bonfems F., Spik G., Lallemand J.-Y.;

RT "Solution structure of bovine angiogenin by 1H nuclear magnetic
 resonance spectroscopy.";
 RL Biochemistry 35:8870-8880(1996).
 CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds
 to actin on the surface of endothelial cells; once bound,
 CC angiogenin is endocytosed and translocated to the nucleus, thereby
 CC promoting the endothelial invasiveness necessary for blood vessel
 CC formation. Angiogenin induces vascularization of normal and
 CC malignant tissues. Abolishes protein synthesis by specifically
 CC hydrolyzing cellular tRNAs. Binds tightly to placental
 CC ribonuclease inhibitor and has very low ribonuclease activity.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Serum and milk.
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 CC
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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 CC or send an email to license@isb-sib.ch).
 CC
 CC EMBL; AF135124; AAG47631.1; -;
 DR PDB; 1AGI; 03-APR-96.
 DR PDB; 1GLO; 07-DEC-96.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR PRINTS; PR00794; RIBONUCLEASE.
 DR ProDom; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNase_Pc; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 DR Hydroxylase; Nuclease; Endonuclease; Angiogenesis;
 KW Protein synthesis inhibitor; Signal; 3D-structure.
 FT SIGNAL 1 23
 FT CHAIN 24 148 ANGIOGENIN-1.
 FT ACT_SITE 37 37
 FT ACT_SITE 64 64
 FT ACT_SITE 138 138
 FT DISULFID 50 105
 FT DISULFID 63 116
 FT DISULFID 81 131
 SQ SEQUENCE 148 AA; 16969 MW; B7999124CBB523DD CRC64;
 Query Match 22.0%; Score 128; DB 1; Length 148;
 Best Local Similarity 34.0%; Pred. No. 8e-07;
 Matches 33; Conservative 14; Mismatches 32; Indels 18; Gaps 5;
 QY 17 DVDNNIMSTNLF--HCKDKNTFYSPPEVKAICKGIIASKN-----VLTTSFYL 66
 Db 47 DEYCFNMKNRRLTRPKCKDNTFIHGKNDIKAIKE-----DRNGQPYRGDLRIKSEFQI 102
 QY 67 SDC---NVTGR-PCKYKLKSTNTFCVTCENQAPVHF 99
 Db 103 TICKHKGSGSPCRYGATEDSRVIVVGCENGLPVHF 139
 RESULT 10
 RNP MYOC
 ID_RNP_MYOC STANDARD; PRT; 128 AA.
 AC P00676;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 21-JUL-1986 (Rel. 01, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
 GN RNASE1 OR RNS1.
 OS Myocastor coypus (Coypu) (Nutria).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Myocastoridae;
 OC Myocastor.
 OC NCBI_TaxID=10157;
 RN [1]
 RP SEQUENCE.

RC TISSUE=Pancreas;
 RX MEDLINE=77065676; PubMed=99896;
 RA van den Berg A., van den Hende-Timmer L., Beintema J.J.;
 RT "Isolation, properties and primary structure of coypu and chinchilla
 RT pancreatic ribonuclease.";
 RL Biochim. Biophys. Acta 453:400-409(1976).
 CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
 CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
 CC with 2',3'-cyclic phosphate intermediates.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Pancreas.
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 DR PIR; A00822; NRCU.
 DR HSP; P00656; 1SRN.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR PRINTS; PR00794; RIBONUCLEASE.
 DR ProDom; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNase_Pc; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 DR Hydroxylase; Nuclease; Endonuclease; Glycoprotein.
 KW DISULFID 26 84 BY SIMILARITY.
 FT DISULFID 40 95 BY SIMILARITY.
 FT DISULFID 58 110 BY SIMILARITY.
 FT DISULFID 65 72 BY SIMILARITY.
 FT ACT_SITE 12 12 BY SIMILARITY.
 FT ACT_SITE 41 41 BY SIMILARITY.
 FT ACT_SITE 119 119 BY SIMILARITY.
 FT CARBOHYD 34 34 N-LINKED (GLCNAC...);
 SQ SEQUENCE 128 AA; 14267 MW; 4EB924B52B445832 CRC64;
 Query Match 21.6%; Score 126; DB 1; Length 128;
 Best Local Similarity 29.9%; Pred. No. 1.1e-06;
 Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;
 QY 7 FQKKHL-----TNTRDVDNNIM-STNLF--HCKDKNTFYSPPEVKAICKGIIASKNV 58
 Db 8 FERQHMDSRGSPSTNPNYCNEMKSRNMTQGRCKPVNTFVHEPLADVQAVC----FQKNV 63
 QY 59 L-----TTSEFVLSDCNVTSRP---CKYKLKSTNTFCVTCENQ--APVHF 99
 Db 64 LCKNGQTNCYQSNNSNMHTDCRVTSNSDPNCYSRISQEKSIIVVACGNFYVVFH 120
 RESULT 11
 RNP BALAC
 ID_RNP_BALAC STANDARD; PRT; 124 AA.
 AC P00673;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 21-JUL-1986 (Rel. 01, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
 GN RNASE1 OR RNS1.
 OS Balaenoptera acutorostrata (Minke whale) (lesser rorqual).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Cetacea; Mysticeti;
 OC Balaenopteridae; Balaenoptera.
 OC NCBI_TaxID=9767;
 RN [1]
 RP SEQUENCE.
 RX MEDLINE=76277855; PubMed=962870;
 RA Emmens M., Welling G.W., Beintema J.J.;
 RT "The amino acid sequence of pike-whale (lesser-rorqual) pancreatic
 RT ribonuclease.";
 RL Biochem. J. 157:317-323(1976).
 CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
 CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
 CC with 2',3'-cyclic phosphate intermediates.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Pancreas.
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 DR PIR; A00818; NRWHE.
 DR HSP; P00656; 1SRN.

DR	ProDom; PD000535; RNaseA; 1.
DR	SMART; SM00092; RNase_Pc; 1.
DR	PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW	Hydrolase; Nuclease; Endonuclease; Angiogenesis;
KW	protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
FT	SIGNAL 1 24 BY SIMILARITY.
FT	CHAIN 25 146
FT	MOD_RES 25 25
FT	ACT_SITE 37 37 BY SIMILARITY.
FT	ACT_SITE 64 64 BY SIMILARITY.
FT	ACT_SITE 138 138 BY SIMILARITY.
FT	DISULFID 50 105 BY SIMILARITY.
FT	DISULFID 63 116 BY SIMILARITY.
FT	DISULFID 81 131 BY SIMILARITY.
SEQ	SEQUENCE 146 AA; 16301 MW; E39A89215DB2A2A4 CRC64;
Query Match 20.8%; Score 121.5; DB 1; Length 146;	
Best Local Similarity 28.7%; Pred.No. 3.9e-06;	
Matches 29; Conservative 17; Mismatches 32; Indels 23; Gaps	
Qy	6 TFOKCHLTNRDVCNNINSTNLFHCKDKXNFTFYSPPEVPAIC---KGIIASKNV-LTT 61
Db	53 TWRRRLHUTS-----CKDINTFVGHRRHITAICGDENGSPYGGNLRIST 97
Qy	62 SEFYLDSCNVTS----RPCKYKLKSTNTFCVTCENQAPVH 98
Db	98 SPFQVITCKLGGSPRPPQYRATRGSRNIVGCENGLPVH 138
RESULT 13	
RNP_PROGU	ID - RNP_PROGU STANDARD; PRT; 128 AA.
AC	P04059;
DT	01-NOV-1986 (Rel. 03, Created)
DT	01-NOV-1986 (Rel. 03, Last sequence update)
DT	28-FEB-2003 (Rel. 41, Last annotation update)
DN	Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
GN	RNASE1 OR RNS1.
OS	Eukaryotes; guirae (Casiragua).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Mammalia; Eutheria; Rodentia; Hystricognathi; Echimyidae; Proechimys.
OX	[NCBI_TaxID=10163;
ON	[1]
RC	SEQUENCE.
RC	TISSUE=Pancreas;
RX	MEDLINE=83000399; PubMed=7115727;
RA	Beintema J.U., Knol G., Martena B.;
RT	"The primary structures of pancreatic ribonucleases from African
RT	porcupine and casiragua, two hystricomorph rodent species.";
RL	Biochim. Biophys. Acta 705:102-110(1982).
CC	-!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-phosphates and 3'-phosphooligonucleotides ending in C-P or U-P with 2',3'-cyclic phosphate intermediates.
CC	-!- SUBCELLULAR LOCATION: Secreted.
CC	-!- TISSUE SPECIFICITY: Pancreas.
CC	-!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
PIR	A00821; NRKS.
HSSP	P00656; ILSRN.
DR	InterPro; IP0001427; RNaseA.
DR	Pfam; PF00074; rnaaseA; 1.
DR	PRINTS; PR00794; RIBONUCLEASE.
DR	ProDom; PD000535; RNaseA; 1.
DR	SMART; SM00092; RNase_Pc; 1.
DR	PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW	Hydrolase; Nuclease; Endonuclease; Glycoprotein.
FT	DISULFID 26 84 BY SIMILARITY.
FT	DISULFID 40 95 BY SIMILARITY.
FT	DISULFID 58 110 BY SIMILARITY.
FT	DISULFID 65 72 BY SIMILARITY.
FT	ACT_SITE 12 12 BY SIMILARITY.
FT	ACT_SITE 41 41 BY SIMILARITY.
FT	ACT_SITE 119 119 BY SIMILARITY.

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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:25:55 ; Search time 44.7895 Seconds
(without alignments)
662.376 Million cell updates/sec

Title: US-09-961-400-8

Perfect score: 584

Sequence: 1 MQDWLTFQKKLNTTRDVDC.....TFCVTCENQAPVHFVGVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	DB ID	Description
1	572	97.9	105	2	AAY28869
2	570	97.6	105	2	AAY28867
3	567	97.1	104	2	AAY28866
4	565	96.7	104	2	AAY28865
5	565	96.7	105	2	AAY28871
6	565	96.7	127	2	AAY28879
7	560	95.9	104	2	AAY28870
8	545	93.3	104	2	AAW06544
9	545	93.3	105	2	AAW35123
10	545	93.3	105	2	AAW39400
11	545	93.3	355	2	AAW35125
12	545	93.3	358	2	AAW35130
13	543	93.0	104	2	AAW30301
14	543	93.0	104	4	AAB31666
15	543	93.0	104	5	ABG32650
16	543	93.0	112	2	AAW35118
17	543	93.0	251	2	AAW35134
18	543	93.0	254	2	AAW35135
19	543	93.0	355	2	AAW35133
20	543	93.0	355	2	AAW35129
21	543	93.0	366	2	AAW35132
22	543	93.0	379	2	AAW35126
23	542	92.8	104	2	AAW30302
24	540	92.5	104	2	AAR12344
25	540	92.5	104	2	AAR47303

26	540	92.5	104	2	AAW00736	Aaw00736 Protein d
27	540	92.5	104	2	AAW14065	Aaw14065 Onconase
28	540	92.5	104	2	AAW06543	Aaw06543 Antitumou
29	540	92.5	104	2	AAW88233	Aaw88233 Rana pipi
30	540	92.5	104	2	AAW33322	Aaw33322 Frog onco
31	540	92.5	104	4	AAB31667	Aab31667 Amino aci
32	540	92.5	104	5	ABG31617	Abg31617 Northern
33	538	92.1	105	2	AAW35116	Aaw35116 R. pipien
34	538	92.1	106	2	AAW35122	Aaw35122 R. pipien
35	538	92.1	107	2	AAW35117	Aaw35117 R. pipien
36	537	92.0	105	2	AAW35115	Aaw35115 R. pipien
37	535	91.6	104	2	AAW18224	Aaw18224 Antitumou
38	534	91.4	358	2	AAW35127	Aaw35127 R. pipien
39	534	91.4	365	2	AAW35131	Aaw35131 R. pipien
40	515	88.2	107	2	AAW35120	Aaw35120 R. pipien
41	482	82.5	360	2	AAW35128	Aaw35128 R. pipien
42	470.5	80.6	111	2	AAW35121	Aaw35121 R. pipien
43	432	74.0	83	2	AAW35119	Aaw35119 R. pipien
44	432	74.0	83	2	AAW88234	Aaw88234 Rana pipi
45	283	48.5	111	2	AAW33321	Aay33321 Frog lect

ALIGNMENTS

RESULT 1
AAY28869
ID AAY28869 standard; protein; 105 AA.
XX
AC AAY28869;
XX
DT 25-JAN-2000 (first entry)
XX
DE Recombinant Met (-1) RapLRL Met23Leu- (His) 6 protein.
XX
KW Recombinant Met (-1) Rana pipiens ribonuclease Met23Leu- (His) 6; RapLRL;
KW CD22; covalently bound; L12 antibody; ligand binding moiety; RNase; hCG;
KW cancerous B cell; Kaposi's sarcoma; human chorionic gonadotropin; hCG;
KW signal peptide; recombinant ribonuclease; cytotoxic fusion protein;
KW cancer; frog; autoimmune disease.
XX
OS Rana pipiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 1 /note= "Met not found in wild type RapLRL"
FT Misc-difference 1 /note= "(His)6 histidine tag attached to N-terminal Met"
FT Misc-difference 24 /note= "Wild type Met replaced with Leu"
XX
WO9950398-A2.
XX
FD 07-OCT-1999.
XX
PF 26-MAR-1999; 99WO-US006641.
XX
PR 27-MAR-1998; 98US-0079751P.
XX
PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
PI Rybak SM, Newton DL;
XX
DR WPI; 1999-610847/52.
XX
DR N-PSDB; AAZ08127.
XX
PT New recombinant ribonucleases, used for killing target cells, e.g. for
PT treating cancers, viral infections or autoimmune diseases.
XX
PS Claim 4; Page 59; 71pp; English.
XX
CC The present sequence is a recombinant Rana pipiens ribonuclease protein

CC (RaPLR1) with Met at position 1 attached to (His)6 tag and Met24Leu.
 CC Carboxy terminal end of recombinant RaPLR1 has a covalently bound ligand
 CC binding moiety, which can be a LL2 antibody directed against CD22 on
 CC cancerous B cells or human chorionic gonadotropin (hCG) effective
 CC against Kaposi's sarcoma cells. Recombinant ribonucleases can be
 CC expressed in bacteria without an N-terminal methionine due to the
 CC presence of a signal peptide that is cleaved by bacteria. The soluble
 CC expression of ribonuclease allows the proteins to be fused in-frame with
 CC ligand binding moieties to form cytotoxic fusion proteins. They can be
 CC used for treatment of cancer and autoimmune diseases

XX Sequence 105 AA;

Query Match 97.9%; Score 572; DB 2; Length 105;
 Best Local Similarity 98.1%; Pred. No. 8e-63; Mismatches 0; Gaps 0;
 Matches 103; Conservative 0; Indels 2; Indels 0; Gaps 0;
 QY 1 QMDWLTFOKXHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLT 60
 DB 1 QMDWLTFOKXHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLT 60
 QY 61 TFEFLSDCNATSPCKYKLLKSKNTNFCVTCENQAPVHFVGHC 105
 DB 61 TSEFLSDCNVTSRPRCKYKLLKSKNTNFCVTCENQAPVHFVGHC 105

RESULT 2

AA28867
 ID AAY28867 standard; protein; 105 AA.

XX
 AC AAY28867;

XX 25-JAN-2000 (first entry)

XX Recombinant Met (-1) RaPLR1.

XX Recombinant Met (-1) Rana pipiens ribonuclease; RaPLR1; CD22; RNase;
 KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease.

XX Rana pipiens.

OS Synthetic.

XX Key Location/Qualifiers

FT Misc-difference 1 /note= "Met not found in wild type RaPLR1"

XX WO9950398-A2.

XX 07-OCT-1999.

XX 26-MAR-1999; 99WO-US006641.

XX 27-MAR-1998; 98US-0079751P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX Rybak SM, Newton DL;

XX WPI; 1999-610847/52.

XX N-PSDB; AAZ08126.

XX New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.

XX Claim 34; Page 57; 71pp; English.

XX The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1. Carboxy terminal end of recombinant
 CC RaPLR1 has a covalently bound ligand binding moiety, which can be a LL2
 CC antibody directed against CD22 on cancerous B cells or human chorionic

CC gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

XX Sequence 105 AA;

Query Match 97.6%; Score 570; DB 2; Length 105;
 Best Local Similarity 97.1%; Pred. No. 1.4e-62;
 Matches 102; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 QMDWLTFOKXHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLT 60

DB 1 QMDWLTFOKXHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLT 60

QY 61 TFEFLSDCNATSPCKYKLLKSKNTNFCVTCENQAPVHFVGHC 105

DB 61 TSEFLSDCNVTSRPRCKYKLLKSKNTNFCVTCENQAPVHFVGHC 105

RESULT 3

AA28866
 ID AAY28866 standard; protein; 104 AA.

XX
 AC AAY28866;

XX 25-JAN-2000 (first entry)

XX Recombinant RaPLR1 Met23Leu amino acid sequence.

XX Recombinant Rana pipiens ribonuclease; RaPLR1 Met23Leu; covalently bound;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; RNase;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease.

XX Rana pipiens.

OS Synthetic.

XX Key Location/Qualifiers

FT Misc-difference 23 /note= "Wild type Met replaced with Leu"

XX WO9950398-A2.

XX 07-OCT-1999.

XX 26-MAR-1999; 99WO-US006641.

XX 27-MAR-1998; 98US-0079751P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX Rybak SM, Newton DL;

XX WPI; 1999-610847/52.

XX N-PSDB; AAZ08125.

XX New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.

XX Claim 34; Page 56; 71pp; English.

XX The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met23Leu. Carboxy terminal end of recombinant RaPLR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by

CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

XX Sequence 104 AA;

SQ Query Match 97.1%; Score 567; DB 2; Length 104;
 Best Local Similarity 98.1%; Pred. No. 3.3e-62;
 Matches 102; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 DB 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 62 FEFYSDCNATSRPCKYKLLKKSNTFCVTCENQAPVHFVGHC 105
 DB 61 SEFYSDCNATSRPCKYKLLKKSNTFCVTCENQAPVHFVGHC 104

RESULT 4
 AAY28865
 ID AAY28865 standard; protein; 104 AA.
 AC AAY28865;
 XX

DT 25-JAN-2000 (first entry)

DE Rana pipiens liver ribonuclease (RaPLR1).

XX Rana pipiens liver ribonuclease; RaPLR1; covalently bound; LL2 antibody;
 KW ligand binding moiety; CD22; cancerous B cell; Kaposi's Sarcoma; frog;
 KW human chorionic gonadotropin; hCG; recombinant ribonuclease; RNase;
 KW signal peptide; cytotoxic fusion protein; cancer; autoimmune disease.

XX Rana pipiens.

XX WO9950398-A2.

PN 07-OCT-1999.

PD 26-MAR-1999; 99WO-US006641.

PF 27-MAR-1998; 98US-0079751P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

PA Rybak SM, Newton DL;

XX WPI; 1999-610847/52.

DR N-PSDB; AAZ08129.

XX New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.

XX Claim 1; Page 55; 71pp; English.

XX The present sequence is Rana pipiens liver ribonuclease (RaPLR1) protein.
 CC Carboxy terminal end of RaPLR1 has a covalently bound ligand binding
 CC moiety, which can be a LL2 antibody directed against CD22 on cancerous B
 CC cells or human chorionic gonadotropin (hCG) effective against Kaposi's
 CC Sarcoma cells. Recombinant ribonucleases can be expressed in bacteria
 CC without an N-terminal methionine due to the presence of a signal peptide
 CC that is cleaved by bacteria. The soluble expression of ribonuclease
 CC allows the proteins to be fused in-frame with ligand binding moieties to
 CC form cytotoxic fusion proteins. They can be used for treatment of cancer
 CC and autoimmune diseases

XX Sequence 104 AA;

SQ Query Match 96.7%; Score 565; DB 2; Length 104;
 Best Local Similarity 97.1%; Pred. No. 5.9e-62;
 Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 DB 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 62 FEFYSDCNATSRPCKYKLLKKSNTFCVTCENQAPVHFVGHC 105
 DB 61 SEFYSDCNATSRPCKYKLLKKSNTFCVTCENQAPVHFVGHC 104

RESULT 5
 AAY28871

ID AAY28871 standard; protein; 105 AA.

XX AAY28871;

XX 25-JAN-2000 (first entry)

DE Recombinant Met (-1) RaPLR1 GlnSer amino acid sequence.

XX Recombinant Met (-1) Rana pipiens ribonuclease GlnSer; RaPLR1; CD22;
 KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease; RNase.

XX Rana pipiens.

OS Synthetic.

XX Key Location/Qualifiers

FT Misc-difference 1

FT /note= "Met not found in wild type RaPLR1"

FT Misc-difference 2

FT /note= "Wild type Gln replaced with Ser"

XX WO9950398-A2.

PN 07-OCT-1999.

PD 26-MAR-1999; 99WO-US006641.

PF 27-MAR-1998; 98US-0079751P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

PA Rybak SM, Newton DL;

XX WPI; 1999-610847/52.

DR N-PSDB; AAZ08129.

XX New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.

XX Claim 34; Page 61; 71pp; English.

XX The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1 and Gln2Ser. Carboxy terminal end of
 CC recombinant RaPLR1 has a covalently bound ligand binding moiety, which
 CC can be a LL2 antibody directed against CD22 on cancerous B cells or human
 CC chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells.
 CC Recombinant ribonucleases can be expressed in bacteria without an N-
 CC terminal methionine due to the presence of a signal peptide that is
 CC cleaved by bacteria. The soluble expression of ribonuclease allows the
 CC proteins to be fused in-frame with ligand binding moieties to form
 CC cytotoxic fusion proteins. They can be used for treatment of cancer and
 CC autoimmune diseases

XX Sequence 105 AA;

SQ Query Match 96.7%; Score 565; DB 2; Length 105;
 Best Local Similarity 96.2%; Pred. No. 5.9e-62;
 Matches 101; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 MDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 Db 1 MSWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 61 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 Db 61 TSEYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 6

AAAY28879
 ID AAY28879 standard; protein; 127 AA.
 XX
 AC AAY28879;
 XX
 DT 25-JAN-2000 (first entry)
 XX
 DE Rana pipiens Clone 5a1b ribonuclease.
 XX
 KW Rana pipiens ribonuclease Clone 5a1b; RAPIR1; covalently bound; RNase;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; onconase;
 KW Kaposi's Sarcoma; human chorionic gonadotrophin; hCG; cancer;
 KW recombinant ribonuclease; frog; signal peptide; cytotoxic fusion protein;
 KW autoimmune disease.
 XX
 OS Rana pipiens.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..23
 FT /label= Signal_peptide
 FT /note= "Putative"
 FT Protein 24..127
 FT /label= Rana_pipiens_Clone_5a1b_ribonuclease
 XX
 PN WO9950398-A2.
 XX
 PD 07-OCT-1999.
 XX
 PF 26-MAR-1999; 99WO-US006641.
 XX
 PR 27-MAR-1998; 98US-0079751P.
 XX
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Rybak SM, Newton DL;
 XX
 DR WPI; 1999-610847/52.
 DR N-PSDB; AAZ08136.
 XX
 PT New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.
 XX
 PS Disclosure; Page 69; 71pp; English.
 XX

CC The present sequence is a Rana pipiens Clone 5a1b ribonuclease (RAPIR1).
 CC It is encoded by Clone 5a1b cDNA obtained from Rana pipiens liver mRNA
 CC library. It exhibits differences with Onconase (RTM) at amino acid
 CC residues 11, 20, 85 and 103. Carboxy terminal end of RAPIR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases
 XX

SQ Sequence 127 AA;

Query Match 96.7%; Score 565; DB 2; Length 127;
 Best Local Similarity 97.1%; Pred. No. 7.6e-62;
 Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 Db 24 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 83
 QY 62 FEFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 Db 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 7

AAAY28870
 ID AAY28870 standard; protein; 104 AA.
 XX
 AC AAY28870;
 XX
 DT 25-JAN-2000 (first entry)
 XX
 DE Recombinant RAPIR1 Gln1Ser amino acid sequence.
 XX
 KW Recombinant Rana pipiens ribonuclease; RAPIR1 Gln1Ser; covalently bound;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; frog;
 KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; RNase;
 KW autoimmune disease.
 XX
 OS Rana pipiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 1 /note= "Wild type Gln replaced with Ser"
 FT
 XX
 PN WO9950398-A2.
 XX
 PD 07-OCT-1999.
 XX
 PF 26-MAR-1999; 99WO-US006641.
 XX
 PR 27-MAR-1998; 98US-0079751P.
 XX
 XX (USSE) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Rybak SM, Newton DL;
 XX
 DR WPI; 1999-610847/52.
 DR N-PSDB; AAZ08128.
 XX
 PT New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.
 XX
 PS Claim 34; Page 60; 71pp; English.
 XX

CC The present sequence is a recombinant Rana pipiens ribonuclease (RAPIR1).
 CC protein with Gln1Ser. Carboxy terminal end of recombinant RAPIR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases
 XX

SQ Sequence 104 AA;

Query Match 95.9%; Score 560; DB 2; Length 104;
 Best Local Similarity 97.1%; Pred. No. 2.4e-61;
 Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 3 DWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 62
 |||||

```

Db      2 DMLTFQKKHLTNTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTS 61
QY      63 EFYLSDCNATSRPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 105
        ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
Db      62 EFYLSDCNATSRPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 8
AAW06544
ID      AAW06544 standard; protein; 104 AA.
XX
XX      AC      AAW06544;
XX
XX      DT      22-AUG-1997 (first entry)
XX
XX      DE      Antitumour protein from Rana pipiens oocytes.
XX
XX      KW      Tumour; chemotherapy; radiotherapy; frog.
XX
XX      OS      Rana pipiens.
XX
XX      PN      WO9639428-A1.
XX
XX      PD      12-DEC-1996.
XX
XX      PF      03-JUN-1996; 96WO-US008304.
XX
XX      PR      06-JUN-1995; 95US-00467955.
XX
XX      PA      (ALFA-) ALFACELL CORP.
XX
XX      PI      Ardelt WJ;
XX
XX      WPI; 1997-043063/04.
XX
XX      Antitumour proteins from Rana pipiens oocyte(s) - have fewer
PT      disadvantages than chemotherapy, surgery and radiotherapy.
PS      Claim 8; Page 28; 45pp; English.
XX
XX      The present sequence is a specifically claimed example of an antitumour
CC      protein from the generic protein in AAW18224, with the molecular weight
CC      12000. This is one of two preferred proteins (the other in AAW06543) that
CC      have been isolated from Rana pipiens oocytes. Both proteins have a
CC      blocked amino terminal group and are essentially free of carbohydrates.
CC      The proteins are used to treat tumours. Use of the peptides has fewer
CC      disadvantages than chemotherapy, radiotherapy and surgery in the
CC      treatment of tumours
XX
XX      SQ      Sequence 104 AA;
XX
XX      Query Match 93.3%; Score 545; DB 2; Length 104;
XX      Best Local Similarity 93.3%; Pred. No. 1.8e-59;
XX      Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY      2 QDMLTFQKKHLTNTRDVDCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
        :|||||: ||||||: ||||||: ||||||: ||||||: ||||||: ||||||:
Db      1 EDMLTFQKKHVTNTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
        ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
QY      62 EFYLSDCNATSRPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 105
        ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
Db      61 SEFYLSDCNATSRPCKYKLGKSTNTFCVTCENQAPVHFVGVGRC 104

RESULT 9
AAW35123
ID      AAW35123 standard; protein; 105 AA.
XX
XX      AC      AAW35123;
XX
XX      DT      20-APR-1998 (first entry)
XX
XX      DE      R. pipiens recombinant RNase protein [Met-(-1)]rOnc.

```

```

XX
XX      RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
KW      tumour cell growth; frog.
XX
XX      OS      Rana pipiens.
XX
XX      PN      WO9731116-A2.
XX
XX      PD      28-AUG-1997.
XX
XX      PF      19-FEB-1997; 97WO-US002588.
XX
XX      PR      21-FEB-1996; 96US-0011800P.
XX
XX      PA      (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX
XX      PI      Rybak SM, Newton DL, Boque L, Wlodawer A;
XX
XX      DR      WPI; 1997-435168/40.
XX      DR      N-PSDB; AAT94959.
XX
XX      PT      Ribonuclease molecules based on native Onconase - used for killing cells,
XX      particularly tumour cells.
XX
XX      PS      Disclosure; Page 65-66; 90pp; English.
XX
XX      AA035115 to AAW35123 encode recombinant proteins (rOnc) which are
CC      modifications of the RNase Onconase (rNm). Such novel ribonuclease
CC      molecules are highly cytotoxic and can be used alone or to form chemical
CC      conjugates or to target recombinant immunofusions. They are used
CC      particularly for decreasing tumour cell growth. They can also be used for
CC      cell separation in vitro by selectively killing unwanted types of cells,
CC      e.g. in bone marrow prior to transplantation into a patient undergoing
CC      marrow ablation by radiation, or for killing leukaemia cells or T-cells
CC      that would cause graft versus host disease. The toxins can also be used
CC      to selectively kill unwanted cells in culture. The new ribonucleases have
CC      increased cytotoxic activity compared to nOnc and also lower
CC      immunogenicity in humans
XX
XX      SQ      Sequence 105 AA;
XX
XX      Query Match 93.3%; Score 545; DB 2; Length 105;
XX      Best Local Similarity 92.4%; Pred. No. 1.8e-59;
XX      Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY      1 MODMLTFQKKHLTNTRDVDCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
        :|||||: ||||||: ||||||: ||||||: ||||||: ||||||: ||||||:
Db      1 MEDMLTFQKKHVTNTRDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
        ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
QY      61 TPEFYLSDCNATSRPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 105
        ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
Db      61 TSEFYLSDCNATSRPCKYKLGKSTNTFCVTCENQAPVHFVGVGSC 105
        ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||

RESULT 10
AAV39400
ID      AAV39400 standard; protein; 105 AA.
XX
XX      AC      AAV39400;
XX
XX      DT      01-DEC-1999 (first entry)
XX
XX      DE      Recombinant frog Onconase.
XX
XX      KW      Ribonuclease; protein synthesis; inhibition; cancer; cytotoxic.
XX
XX      OS      Rana pipiens.
XX
XX      PN      WO9946389-A1.
XX
XX      PD      16-SEP-1999.
XX
XX      PF      11-MAR-1999; 99WO-US004252.

```

XX 11-MAR-1998; 98US-0077557P.
 PR (IMMU-) IMMUNOMEDICS INC.
 XX Goldenberg DM, Hansen H, Leung S;
 XX WPI; 1999-551416/46.
 DR N-PSDB; AA19767.
 XX A new recombinant Onconase used to treat, e.g. colon cancer.
 PT Example 1; Fig 1; 42pp; English.
 XX This sequence represents recombinant frog Onconase. Onconase has
 CC ribonuclease and anti-tumour activity. The cDNA was produced via PCR
 CC (using primers AA219768-219769) of two synthetic DNAs whose sequences
 CC encoded most of the N-terminal or the C-terminal amino acids of mature
 CC Onconase. The two PCR products generated encoded either the N-terminal 54
 CC amino acids (minus the initial methionine) or the C-terminal 51 amino
 CC acids, and were ligated in frame at an NruI site. The cDNA was then
 CC subcloned into a vector e.g., pluscript, where the ATG initiation codon
 CC was ligated to the cDNA. After expression in E. coli, the recombinant
 CC protein was purified. The initial N-formyl methionine was cleaved off and
 CC the now N-terminal glutamate residue cyclised to form an N-terminal
 CC pyroglutamate. The pyroglutamate residue forms part of the phosphate
 CC binding pocket of Onconase and is essential for both the ribonuclease and anti
 CC -tumour activity. Onconase is a 12 kD ribonuclease which causes cell
 CC death as a result of potent inhibition of protein synthesis by a
 CC mechanism involving inactivation of cellular RNA. It is not inhibited by
 CC mammalian placental ribonuclease inhibitor, which may explain its
 CC enhanced cytotoxicity relative to mammalian enzymes. It has anti-tumour
 CC activity against a variety of solid tumours e.g. colon or pancreatic
 CC cancers, and can be used alone or in combination with other anti-cancer
 CC agents such as tamoxifen. When used as an anti-tumour agent, Onconase can
 CC be conjugated to a marker which targets it to a specific cell type
 XX Sequence 105 AA;
 SQ
 Query Match 93.3%; Score 545; DB 2; Length 105;
 Best Local Similarity 92.4%; Pred. No. 1.8e-59;
 Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
 QY 1 MQDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPFVKAICKGIASKNVLT 60
 Db 1 MQDWLTFQKKHINTKDVDCDNIIMSTNLFHCKDKNTFIYSRPFVKAICKGIASKNVLT 60
 QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 Db 61 TSEFYLSDCNVTSRCPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 105
 RESULT 11
 AAW35125
 ID AAW35125 standard; protein; 355 AA.
 XX AAW35125;
 XX 20-APR-1998 (first entry)
 DT R. pipiens recombinant RNase rOnc fusion protein 1.
 DE RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 KW Rana pipiens.
 OS Synthetic.
 OS WO9731116-A2.
 XX 28-AUG-1997.
 XX 19-FEB-1997; 97WO-US002588.
 XX R. pipiens recombinant RNase rOnc fusion protein 6.
 XX RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 XX tumour cell growth; frog.
 XX Rana pipiens.
 OS Synthetic.
 OS WO9731116-A2.
 XX 28-AUG-1997.
 XX 19-FEB-1997; 97WO-US002588.

XX 21-FEB-1996; 96US-0011800P.
 PR (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PA Rybak SM, Newton DL, Boque L, Wlodawer A;
 XX WPI; 1997-435168/40.
 DR N-PSDB; AAT94963.
 XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 XX Disclosure; Page 67; 90pp; English.
 XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (rOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans
 XX Sequence 355 AA;
 SQ
 Query Match 93.3%; Score 545; DB 2; Length 355;
 Best Local Similarity 92.4%; Pred. No. 8.9e-59;
 Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;
 QY 1 MQDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPFVKAICKGIASKNVLT 60
 Db 251 MEDWLTFQKKHINTKDVDCDNIIMSTNLFHCKDKNTFIYSRPFVKAICKGIASKNVLT 310
 QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 Db 311 TSEFYLSDCNVTSRCPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 355
 RESULT 12
 AAW35130
 ID AAW35130 standard; protein; 358 AA.
 XX AAW35130;
 XX 20-APR-1998 (first entry)
 DT R. pipiens recombinant RNase rOnc fusion protein 6.
 DE RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 KW Rana pipiens.
 OS Synthetic.
 OS WO9731116-A2.
 XX 28-AUG-1997.
 XX 19-FEB-1997; 97WO-US002588.
 XX 21-FEB-1996; 96US-0011800P.
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX Rybak SM, Newton DL, Boque L, Wlodawer A;
 XX WPI; 1997-435168/40.
 DR N-PSDB; AAT94968.

XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 XX
 XX Disclosure; Page 72; 90pp; English.
 XX
 XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
 CC ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans
 XX
 XX Sequence 358 AA;

Query Match 93.3%; Score 545; DB 2; Length 358;
 Best Local Similarity 92.4%; Pred. No. 9e-59;
 Matches 97; Conservative 4; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MQDLTFQKKHLTNRDVCNINLSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 DB 1 MEDLTFQKKHITNRDVCNINLSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 61 TFEYLSDCNATSRPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 105
 DB 61 TSEYLSDCNATSRPCKYKLSKSTNTFCVTCENQAPVHFVGVGSC 105

RESULT 13
 AAW30301
 ID AAW30301 standard; protein; 104 AA.
 XX
 XX AAW30301;
 XX
 XX 09-JUN-1998 (first entry)
 XX Recombinant onc protein.
 XX
 XX Onc; onconase; ribonuclease; frog; antitumour; pancreatic cancer;
 XX human immunodeficiency virus type-1; HIV1; replication.
 XX
 XX Rana pipiens.
 XX
 XX WO9738112-A1.
 XX
 XX 16-OCT-1997.
 XX
 XX 04-APR-1997; 97WO-US005675.
 XX
 XX 04-APR-1996; 96US-00626288.
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 XX Youle RJ, Vasandani VM, Wu Y, Boix E, Ardelt W;
 XX WPI; 1997-512725/47.
 XX
 XX Recombinant Onc protein with glutamine residue at position 1 - useful as
 XX antitumour and antiviral agent, also as cell culture selection agent.
 XX
 XX Claim 1; Page 28; 35pp; English.

XX This sequence represents a recombinant Onc protein comprising a 104 amino
 CC acid sequence having Gln at position 1. Onc, a ribonuclease from Rana
 CC pipiens oocytes, is known as an antitumour agent (e.g. for treating
 CC pancreatic cancer) and inhibitor of human immunodeficiency virus type-1
 CC replication. It can be used therapeutically or as a cell-culture

CC selection agent, e.g. to identify gene therapy compositions able to
 CC inhibit tumour growth
 XX
 XX Sequence 104 AA;
 Query Match 93.0%; Score 543; DB 2; Length 104;
 Best Local Similarity 93.3%; Pred. No. 3.2e-59;
 Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;
 QY 2 QDWLTFQKKHLTNRDVCNINLSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 DB 1 QDWLTFQKKHITNRDVCNINLSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 QY 62 FEFYLSDCNATSRPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 105
 DB 61 SEFYLSDCNATSRPCKYKLSKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 14
 AAB31666
 ID AAB31666 standard; protein; 104 AA.
 XX
 XX AAB31666;
 XX
 XX 30-APR-2001 (first entry)
 XX Amino acid sequence of a frog ribonuclease protein.
 XX
 XX Frog; ribonuclease; ranpirnase; RNase.
 XX
 XX Rana pipiens.
 XX
 XX Key Location/Qualifiers
 XX Modified-site 1 /note= "this Gln is autocyclised to pyroglutamic acid"
 XX
 XX US6175003-B1.
 XX
 XX 16-JAN-2001.
 XX
 XX 10-SEP-1999; 99US-00394268.
 XX
 XX 10-SEP-1999; 99US-00394268.
 XX (ALFA-) ALFACELL CORP.
 XX
 XX Saxena SK;
 XX
 XX WPI; 2001-167808/17.
 XX
 XX New nucleic acids encoding a ribonuclease (Rnase), useful for the precise
 XX targeting of Rnase to a predetermined cell receptor.

XX Claim 1; Col 5-6; 7pp; English.
 XX
 XX The present sequence represents a frog ribonuclease protein (ranpirnase)
 CC (Rnase). The specification describes a synthetic ribonuclease protein, in
 CC which the addition of cysteine in the ribonuclease facilitates the
 CC chemical linking of a targeting molecule by the single reactive
 CC sulphydryl group. The specification also describes a method for the
 CC production of ranpirnase using DNA technology instead of processing
 CC biological material. The re-engineering of the protein molecule allows
 CC easier attachment to a targeting molecule thereby making it possible for
 CC the ribonuclease to be delivered to a particular cell receptor where it
 CC might be most effective
 XX
 XX Sequence 104 AA;

Query Match 93.0%; Score 543; DB 4; Length 104;
 Best Local Similarity 93.3%; Pred. No. 3.2e-59;
 Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;
 QY 2 QDWLTFQKKHLTNRDVCNINLSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61

Db 1 QDWLTFQKKHINTDVCNIMSTNLFCKDKNTFYSRPEPVKAICKGIIASKNVLTT 60
QY 62 FEFYLSDCNATSRCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRCKYKLLKSTNKFVCVTCENQAPVHFVGVGSC 104

RESULT 15
ABG32650
ID ABG32650 standard; protein; 104 AA.
XX AC ABG32650;
XX DT 15-NOV-2002 (first entry)
XX DE Northern leopard frog ranpirnase protein.
XX KW Northern leopard frog; ranpirnase; site-directed mutation; ribonuclease.
XX OS Rana pipiens.
XX PN US6423515-B1.
XX PD 23-JUL-2002.
XX PF 14-OCT-2000; 2000US-00687748.
XX PR 10-SEP-1999; 99US-00394268.
XX PA (ALFA-) ALFACELL CORP.
XX PI Saxena SK;
XX DR WPI; 2002-664633/71.
XX PT Constructing isolated nucleic acid encoding ribonuclease, by subjecting
PT desired recombinant plasmid DNA to different site-directed mutations to
PT produce nucleic acid, using different polymerase chain reaction
PT protocols.

XX PS Claim 1; Col 5-6; 8pp; English.
XX CC The present invention relates to a new method of constructing isolated
CC nucleic acid encoding ribonuclease protein with N-terminal Met at
CC position -1 and Glu at position 1, where its Met has been cleaved and its
CC Glu has been autocyclised. The method of the invention involves
CC subjecting pET10d-rOnc(Q1,M23L) plasmid DNA to two different site-
CC directed mutations, each using overlapping PCR protocol. The method is
CC useful for constructing an isolated nucleic acid encoding the
CC ribonuclease. The present amino acid sequence represents the northern
CC leopard frog ranpirnase protein of the invention

XX SQ Sequence 104 AA;
Query Match 93.0%; Score 543; DB 5; Length 104;
Best Local Similarity 93.3%; Pred. No. 3.2e-59;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;
QY 2 QDWLTFQKKHINTDVCNIMSTNLFCKDKNTFYSRPEPVKAICKGIIASKNVLTT 61
Db 1 QDWLTFQKKHINTDVCNIMSTNLFCKDKNTFYSRPEPVKAICKGIIASKNVLTT 60
QY 62 FEFYLSDCNATSRCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRCKYKLLKSTNKFVCVTCENQAPVHFVGVGSC 104

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: May 7, 2004, 21:28:45 ; Search time 12.1796 Seconds
(without alignments)
445.066 Million cell updates/sec

Title: US-09-961-400-8

Perfect score: 584

Sequence: 1 MQDMLTFQKKHLTNTRDYDC.....TFCVTCNQAPVHFGVGHC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA.*
1: /cgn2_6/ptodata/2/1aa/5A COMB.pap.*
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6: /cgn2_6/ptodata/2/1aa/backfiles1.pap.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	545	93.3	104	1	US-08-467-955-2
2	545	93.3	105	3	US-08-875-811-39
3	545	93.3	355	3	US-08-875-811-41
4	545	93.3	358	3	US-08-875-811-51
5	543	93.0	104	3	US-09-394-268-1
6	543	93.0	104	4	US-09-687-748-1
7	543	93.0	104	4	US-08-626-288-1
8	543	93.0	104	4	US-09-095-429-1
9	543	93.0	112	3	US-08-875-811-32
10	543	93.0	129	3	US-08-875-811-63
11	543	93.0	251	3	US-08-875-811-59
12	543	93.0	254	3	US-08-875-811-61
13	543	93.0	355	3	US-08-875-811-49
14	543	93.0	355	3	US-08-875-811-57
15	543	93.0	355	3	US-08-875-811-64
16	543	93.0	366	3	US-08-875-811-55
17	543	93.0	379	3	US-08-875-811-43
18	540	92.5	104	1	US-08-283-971-1
19	540	92.5	104	1	US-07-921-619-1
20	540	92.5	104	1	US-08-467-955-1
21	540	92.5	104	2	US-08-891-848-13
22	540	92.5	104	3	US-09-394-268-2
23	540	92.5	104	4	US-09-687-748-2
24	540	92.5	104	4	US-08-626-288-2
25	540	92.5	104	4	US-09-095-429-2
26	538	92.1	104	3	US-08-875-811-1
27	538	92.1	104	4	US-09-071-672-1

28 538 92.1 104 4 US-09-986-119-1 Sequence 1, Appli
29 538 92.1 105 3 US-08-875-811-26 Sequence 26, Appl
30 538 92.1 106 3 US-08-875-811-28 Sequence 28, Appl
31 538 92.1 107 3 US-08-875-811-30 Sequence 30, Appl
32 537 92.0 105 3 US-08-875-811-24 Sequence 24, Appl
33 534 91.4 358 3 US-08-875-811-45 Sequence 45, Appl
34 534 91.4 365 3 US-08-875-811-53 Sequence 53, Appl
35 515 88.2 107 3 US-08-875-811-20 Sequence 20, Appl
36 482 88.2 360 3 US-08-875-811-47 Sequence 47, Appl
37 470.5 80.6 111 3 US-08-875-811-22 Sequence 22, Appl
38 432 74.0 83 3 US-08-875-811-2 Sequence 2, Appl
39 432 74.0 83 4 US-09-071-672-3 Sequence 3, Appl
40 432 74.0 83 4 US-09-986-119-3 Sequence 3, Appl
41 283 48.5 111 2 US-08-891-848-12 Sequence 12, Appl
42 283 48.5 111 3 US-08-875-811-4 Sequence 8, Appl
43 212.5 36.4 114 3 US-09-223-118-4 Sequence 4, Appl
44 200.5 34.3 114 3 US-09-223-118-2 Sequence 2, Appl
45 199.5 34.2 114 3 US-09-223-118-1 Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-08-467-955-2
; Sequence 2, Application US/08467955
; Patent No. 5728805
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D. Wojciech J.
; TITLE OF INVENTION: PHARMACEUTICALS AND METHOD FOR MAKING THEM
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Mark H. Jay, P.A.
; STREET: P.O. Box E
; CITY: Short Hills
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07078-0383
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/467,955
; FILING DATE:

CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/178,118
FILING DATE: 06-APR-1988
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/436,141
FILING DATE: 13-NOV-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/814,332
FILING DATE: 03-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/283,970
FILING DATE: 01-AUG-1994
ATTORNEY/AGENT INFORMATION:
NAME: Jay, Mark H.
REGISTRATION NUMBER: 27507
REFERENCE/DOCKET NUMBER: 5007 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-912-9066
TELEFAX: 201-912-0442
TELEX: No. 5728805 Applicable
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 104 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: protein
HYPOTHEICAL: N
ANTI-SENSE: N
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: Rana pipiens
DEVELOPMENTAL STAGE: Oocyte
US-08-467-955-2

Query Match 93.3%; Score 545; DB 1; Length 104;
Best Local Similarity 93.3%; Pred. No. 9.3e-59;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNINLSTNLFHCKDKNTFYISRPVPVKAICKGIASKNVLT 61
Db 1 EDWLTFFQKKHITNTRDVCNINLSTNLFHCKDKNTFYISRPVPVKAICKGIASKNVLT 60

QY 62 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

Db 61 TSEYLSDCNVTISRCPCKYKLLKSTNFKVTCENQAPVHFVGVGSC 104

RESULT 2

US-08-875-811-39
Sequence 39, Application US/08875811
Patent No. 6045793

GENERAL INFORMATION:
APPLICANT: Rybak, Susanna M.

APPLICANT: Newton, Dianne L.
APPLICANT: Boque, Lluís

APPLICANT: Wlodawer, Alexander
TITLE OF INVENTION: Recombinant Ribonuclease Proteins

NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor

CITY: San Francisco
STATE: California

COUNTRY: USA
ZIP: 94111-3834

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998

CLASSIFICATION: 435
PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/011,800

FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:

NAME: Faris, Susan K.
REGISTRATION NUMBER: 41,739

REFERENCE/DOCKET NUMBER: 015280-244100US
TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300

INFORMATION FOR SEQ ID NO: 39:
SEQUENCE CHARACTERISTICS:

LENGTH: 105 amino acids
TYPE: amino acid

TOPOLOGY: linear
MOLECULE TYPE: protein

US-08-875-811-39

Query Match 93.3%; Score 545; DB 3; Length 105;
Best Local Similarity 92.4%; Pred. No. 9.5e-59;
Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MQDWLTFQKKHLNTRDVCNINLSTNLFHCKDKNTFYISRPVPVKAICKGIASKNVLT 60
Db 1 MEDWLTFFQKKHITNTRDVCNINLSTNLFHCKDKNTFYISRPVPVKAICKGIASKNVLT 60
QY 61 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 TSEYLSDCNVTISRCPCKYKLLKSTNFKVTCENQAPVHFVGVGSC 105

RESULT 3

US-08-875-811-41
Sequence 41, Application US/08875811

Patent No. 6045793
GENERAL INFORMATION:

APPLICANT: Rybak, Susanna M.
APPLICANT: Newton, Dianne L.

APPLICANT: Boque, Lluís
APPLICANT: Wlodawer, Alexander

TITLE OF INVENTION: Recombinant Ribonuclease Proteins
NUMBER OF SEQUENCES: 64

CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP

STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco

STATE: California
COUNTRY: USA

ZIP: 94111-3834
COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,811

FILING DATE: 19-FEB-1998
CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/02588

FILING DATE: 19-FEB-1997
PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996

ATTORNEY/AGENT INFORMATION:
NAME: Faris, Susan K.

REGISTRATION NUMBER: 41,739
REFERENCE/DOCKET NUMBER: 015280-244100US

TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200

TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 41:

SEQUENCE CHARACTERISTICS:
LENGTH: 355 amino acids

TYPE: amino acid
TOPOLOGY: linear

MOLECULE TYPE: protein
US-08-875-811-41

Query Match 93.3%; Score 545; DB 3; Length 355;
Best Local Similarity 92.4%; Pred. No. 4.6e-58;
Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 1 MQDWLTFQKKHLNTRDVCNINLSTNLFHCKDKNTFYISRPVPVKAICKGIASKNVLT 60
Db 251 MEDWLTFFQKKHITNTRDVCNINLSTNLFHCKDKNTFYISRPVPVKAICKGIASKNVLT 310

QY 61 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

Db 311 TSEYLSDCNVTISRCPCKYKLLKSTNFKVTCENQAPVHFVGVGSC 355

RESULT 4

US-08-875-811-51

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; Sequence 51, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Luis
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Paris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 51:
; LENGTH: 358 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-51

Query Match          93.3%; Score 545; DB 3; Length 358;
Best Local Similarity 92.4%; Pred. No. 4.6e-58;
Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

Qy 1 QDWLTFOKKHITNTRDVCNNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60
Db 1 MEDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60

Qy 61 TFEFVLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVC 105
Db 61 TSEFVLSDCNVTSRPCKYKLLKSTNKFVCVTENQAPVHFVGVC 105

RESULT 5
US-09-394-268-1
; Sequence 1, Application US/09394268
; Patent No. 6175003
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: NUCLEIC ACIDS ENCODING RIBONUCLEASES AND METHODS OF
; MAKING THEM
; FILE REFERENCE: 5013
; CURRENT APPLICATION NUMBER: US/09/394,268
; CURRENT FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1

Query Match          93.3%; Score 545; DB 3; Length 358;
Best Local Similarity 92.4%; Pred. No. 4.6e-58;
Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

Qy 1 QDWLTFOKKHITNTRDVCNNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60
Db 1 MEDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60

Qy 61 TFEFVLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVC 105
Db 61 TSEFVLSDCNVTSRPCKYKLLKSTNKFVCVTENQAPVHFVGVC 105

RESULT 5
US-09-394-268-1
; Sequence 1, Application US/09394268
; Patent No. 6175003
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: NUCLEIC ACIDS ENCODING RIBONUCLEASES AND METHODS OF
; MAKING THEM
; FILE REFERENCE: 5013
; CURRENT APPLICATION NUMBER: US/09/394,268
; CURRENT FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1

Query Match          93.3%; Score 545; DB 3; Length 358;
Best Local Similarity 92.4%; Pred. No. 4.6e-58;
Matches 97; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

Qy 1 QDWLTFOKKHITNTRDVCNNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60
Db 1 MEDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60

Qy 61 TFEFVLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVC 105
Db 61 TSEFVLSDCNVTSRPCKYKLLKSTNKFVCVTENQAPVHFVGVC 105

RESULT 5
US-09-394-268-1
; Sequence 1, Application US/08626288
; Patent No. 6649392
; GENERAL INFORMATION:
; APPLICANT: Youle, Richard
; APPLICANT: Vasandani, Veena
; APPLICANT: Wu, Yon-Neng
; APPLICANT: Boix, Ester
; APPLICANT: Ardel, Wojciech
; TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
; Allows Production by Recombinant Methods
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew
; STREET: One Market Plaza, Steuart Street Tower
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; SEQ ID NO 1

Query Match          93.0%; Score 543; DB 4; Length 104;
Best Local Similarity 93.3%; Pred. No. 1.6e-58;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

Qy 2 QDWLTFOKKHITNTRDVCNNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60

Qy 62 PEFYLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSTNKFVCVTENQAPVHFVGVC 104

RESULT 6
US-09-687-748-1
; Sequence 1, Application US/09687748
; Patent No. 6423515
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: METHODS OF MAKING NUCLEIC ACIDS ENCODING RIBONUCLEASES
; FILE REFERENCE: 5013 US 01
; CURRENT APPLICATION NUMBER: US/09/687,748
; CURRENT FILING DATE: 2000-10-14
; PRIOR APPLICATION NUMBER: 09/394,268
; PRIOR FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1

Query Match          93.0%; Score 543; DB 4; Length 104;
Best Local Similarity 93.3%; Pred. No. 1.6e-58;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

Qy 2 QDWLTFOKKHITNTRDVCNNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60

Qy 62 PEFYLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSTNKFVCVTENQAPVHFVGVC 104

RESULT 6
US-09-687-748-1
; Sequence 1, Application US/09687748
; Patent No. 6423515
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: METHODS OF MAKING NUCLEIC ACIDS ENCODING RIBONUCLEASES
; FILE REFERENCE: 5013 US 01
; CURRENT APPLICATION NUMBER: US/09/687,748
; CURRENT FILING DATE: 2000-10-14
; PRIOR APPLICATION NUMBER: 09/394,268
; PRIOR FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1

Query Match          93.0%; Score 543; DB 4; Length 104;
Best Local Similarity 93.3%; Pred. No. 1.6e-58;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

Qy 2 QDWLTFOKKHITNTRDVCNNILSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFOKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLT 60

Qy 62 PEFYLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVC 105
Db 61 SEFYLSDCNVTSRPCKYKLLKSTNKFVCVTENQAPVHFVGVC 104

RESULT 6
US-09-687-748-1
; Sequence 1, Application US/08626288
; Patent No. 6649392
; GENERAL INFORMATION:
; APPLICANT: Youle, Richard
; APPLICANT: Vasandani, Veena
; APPLICANT: Wu, Yon-Neng
; APPLICANT: Boix, Ester
; APPLICANT: Ardel, Wojciech
; TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
; Allows Production by Recombinant Methods
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew
; STREET: One Market Plaza, Steuart Street Tower
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; SEQ ID NO 1
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; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/626,288
; FILING DATE: No. 6649392 yet assigned
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Ran, David B.
; REGISTRATION NUMBER: 38,589
; REFERENCE/DOCKET NUMBER: 15280-267
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 543-9600
; TELEFAX: (415) 543-5043
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-626-288-1

Query Match          93.0%; Score 543; DB 4; Length 104;
Best Local Similarity 93.3%; Pred. No. 1.6e-58;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPFVKAICKGIIASKNVLTT 61
Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPFVKAICKGIIASKNVLTT 60

QY 62 PEFYLSDCNATSRPCKYKLKSTNFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLKSTNFKVCVTCENQAPVHFVGVGSC 104

RESULT 8
US-09-095-429-1
; Sequence 1, Application US/09095429
; Patent No. 6649393
; GENERAL INFORMATION:
; APPLICANT: Youle, Richard
; APPLICANT: Vasandani, Veena
; APPLICANT: Wu, Yon-Neng
; APPLICANT: Boix, Ester
; APPLICANT: Ardelt, Wojciech
; TITLE OF INVENTION: A Mutant Form of Cytotoxic Protein Which
; TITLE OF INVENTION: Allows Production by Recombinant Methods
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew
; STREET: One Market Plaza, Stewart Street Tower
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/095,429
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/626,288
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Ran, David B.
; REGISTRATION NUMBER: 38,589
; REFERENCE/DOCKET NUMBER: 15280-267
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 543-9600
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 32:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 112 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-32

Query Match          93.0%; Score 543; DB 3; Length 112;
Best Local Similarity 93.3%; Pred. No. 1.6e-58;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPFVKAICKGIIASKNVLTT 61
Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPFVKAICKGIIASKNVLTT 60

QY 62 PEFYLSDCNATSRPCKYKLKSTNFCVTCENQAPVHFVGVGHC 105
Db 61 SEFYLSDCNVTSRPCKYKLKSTNFKVCVTCENQAPVHFVGVGSC 104

RESULT 9
US-08-875-811-32
; Sequence 32, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluis
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 32:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 112 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-32

Query Match          93.0%; Score 543; DB 3; Length 112;
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Best Local Similarity 92.4%; Pred. No. 1.8e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 8 MSDWLTFOKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 67
QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 68 TSEFYLSDCNVTSRPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 112

RESULT 10

US-08-875-811-63
; Sequence 63, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Paris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 63:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 129 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-875-811-63

Query Match 93.0%; Score 543; DB 3; Length 129;
Best Local Similarity 93.3%; Pred. No. 2.2e-58;
Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 26 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 85
QY 62 FEFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 86 SEFYLSDCNVTSPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 129

RESULT 11

US-08-875-811-59
; Sequence 59, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Paris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 59:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 251 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-875-811-59

Query Match 93.0%; Score 543; DB 3; Length 251;
Best Local Similarity 92.4%; Pred. No. 5.1e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MODWLTFOKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 147 MSDWLTFOKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 206
QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
Db 207 TSEFYLSDCNVTSPCKYKLLKSTNKFCTVCENQAPVHFVGVGSC 251

RESULT 12

US-08-875-811-61
; Sequence 61, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997
PRIOR APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: Faris, Susan K.
REGISTRATION NUMBER: 41,739
REFERENCE/DOCKET NUMBER: 015280-244100US
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 61:
SEQUENCE CHARACTERISTICS:
LENGTH: 254 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-875-811-61

Query Match 93.0%; Score 543; DB 3; Length 254;
Best Local Similarity 92.4%; Pred. No. 5.2e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MDWLTFFQKKHITNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 1 MSDWLTFFQKKHITNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60

QY 61 TFEFVLSDCNATSRPCKYKXKSTNTFCVTCENQAPVHFGVGH 105
Db 61 TSEFVLSDCNVTSRPCKYKXKSTNTFCVTCENQAPVHFGVGH 105

RESULT 13
US-08-875-811-49
Sequence 49, Application US/08875811
Patent No. 6045793
GENERAL INFORMATION:
APPLICANT: Rybak, Susanna M.
APPLICANT: Newton, Dianne L.
APPLICANT: Boque, Lluís
APPLICANT: Wlodawer, Alexander
TITLE OF INVENTION: Recombinant Ribonuclease Proteins
NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997
PRIOR APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: Faris, Susan K.
REGISTRATION NUMBER: 41,739
REFERENCE/DOCKET NUMBER: 015280-244100US
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 49:
SEQUENCE CHARACTERISTICS:
LENGTH: 355 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-875-811-49

Query Match 93.0%; Score 543; DB 3; Length 355;
Best Local Similarity 92.4%; Pred. No. 8e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MDWLTFFQKKHITNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 251 MSDWLTFFQKKHITNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 310

QY 61 TFEFVLSDCNATSRPCKYKXKSTNTFCVTCENQAPVHFGVGH 105
Db 311 TSEFVLSDCNVTSRPCKYKXKSTNTFCVTCENQAPVHFGVGH 355

RESULT 14
US-08-875-811-57
Sequence 57, Application US/08875811
Patent No. 6045793
GENERAL INFORMATION:
APPLICANT: Rybak, Susanna M.
APPLICANT: Newton, Dianne L.
APPLICANT: Boque, Lluís
APPLICANT: Wlodawer, Alexander
TITLE OF INVENTION: Recombinant Ribonuclease Proteins
NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: California
COUNTRY: USA
ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,811
FILING DATE: 19-FEB-1998
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/02588
FILING DATE: 19-FEB-1997
PRIOR APPLICATION NUMBER: US 60/011,800
FILING DATE: 21-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: Faris, Susan K.
REGISTRATION NUMBER: 41,739

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; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 57:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-875-811-57

Query Match          93.0%; Score 543; DB 3; Length 355;
Best Local Similarity 92.4%; Pred. No. 8e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MODWLTFQKKHLLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MSDWLTFQKKHLLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNKFCVTENQAPVHFVGVGSC 105

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Job time : 13.1796 secs

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US-08-875-811-64

Query Match          93.0%; Score 543; DB 3; Length 355;
Best Local Similarity 92.4%; Pred. No. 8e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MODWLTFQKKHLLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 251 MSDWLTFQKKHLLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 310
QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVGHC 105
Db 311 TSEFYLSDCNVTSRPCKYKLLKSTNKFCVTENQAPVHFVGVGSC 355

Search completed: May 7, 2004, 21:40:44
Job time : 13.1796 secs

; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 57:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-875-811-57

Query Match          93.0%; Score 543; DB 3; Length 355;
Best Local Similarity 92.4%; Pred. No. 8e-58;
Matches 97; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 1 MODWLTFQKKHLLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MSDWLTFQKKHLLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TFEFYLSDCNATSRPCKYKLLKSTNTFCVTENQAPVHFVGVGHC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNKFCVTENQAPVHFVGVGSC 105

RESULT 15
US-08-875-811-64
; Sequence 64, Application US/09875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC Compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875.811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Farris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 64:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:29:40 ; Search time 33.6904 Seconds
(without alignments)

865.070 Million cell updates/sec

Title: US-09-961-400-8

Perfect score: 584

Sequence: 1 MQDWLTFQKKHLTNRDVC.....TFCVTCENQAPVHFVGVC 105

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Searched: 1140673 seqs, 277566755 residues

Total number of hits satisfying chosen parameters: 1140673

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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Published Applications AA:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	DB ID	Description
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3	575	98.5	104	US-09-961-400-4
4	572	97.9	111	US-09-961-400-9
5	571	97.8	105	US-09-948-391A-8
6	571	97.8	111	US-09-948-391A-9
7	570	97.6	105	US-09-948-391A-6
8	570	97.6	105	US-09-961-400-6
9	565	96.7	104	US-09-961-400-2
10	565	96.7	105	US-09-948-391A-13
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12	565	96.7	127	US-09-948-391A-28
13	565	96.7	127	US-09-961-400-28
14	560	95.9	104	US-09-948-391A-11
15	560	95.9	104	US-09-961-400-11

16	556	95.2	104	10	US-09-948-391A-2	Sequence 2, Appli
17	548	93.8	105	14	US-10-153-882-2	Sequence 2, Appli
18	538	92.1	104	9	US-09-986-119-1	Sequence 1, Appli
19	538	92.1	104	10	US-09-918-887-1	Sequence 1, Appli
20	535	91.6	104	12	US-10-461-713-53	Sequence 53, Appli
21	432	74.0	83	9	US-09-986-119-3	Sequence 3, Appli
22	432	74.0	83	10	US-09-918-887-3	Sequence 3, Appli
23	281.5	48.2	111	10	US-09-948-391A-21	Sequence 21, Appli
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25	281.5	48.2	117	10	US-09-948-391A-22	Sequence 22, Appli
26	281.5	48.2	117	10	US-09-961-400-22	Sequence 22, Appli
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28	276.5	47.3	110	10	US-09-961-400-19	Sequence 19, Appli
29	275.5	47.2	110	10	US-09-948-391A-15	Sequence 15, Appli
30	275.5	47.2	110	10	US-09-961-400-15	Sequence 15, Appli
31	275.5	47.2	111	10	US-09-948-391A-26	Sequence 26, Appli
32	275.5	47.2	111	10	US-09-961-400-26	Sequence 26, Appli
33	274.5	47.0	111	10	US-09-948-391A-17	Sequence 17, Appli
34	270.5	46.3	110	10	US-09-948-391A-19	Sequence 19, Appli
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38	142	24.3	119	12	US-10-016-248-89	Sequence 89, Appli
39	142	24.3	119	15	US-10-074-378A-139	Sequence 139, App
40	123.5	21.1	124	13	US-10-016-447-5	Sequence 5, Appli
41	117	20.0	124	12	US-10-037-417-103	Sequence 103, App
42	109	18.7	124	9	US-09-981-286A-8	Sequence 8, Appli
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ALIGNMENTS

RESULT 1

US-09-961-400-8
; Sequence 8, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: BYAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PPT
; ORGANISM: Rana pipiens
; US-09-961-400-8

Query Match 100.0%; Score 584; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 3.1e-60;
Matches 105; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	MQDWLTFQKKHLTNRDVCNNILTNLPHCKDKNTFYISRPVKAICKGIASKNVLT	60
Db	1	MQDWLTFQKKHLTNRDVCNNILTNLPHCKDKNTFYISRPVKAICKGIASKNVLT	60
QY	61	TFEFLYSDCNATSRCKYKLEKSTNTFCVTCEQAPVHFVGVC	105
Db	61	TFEFLYSDCNATSRCKYKLEKSTNTFCVTCEQAPVHFVGVC	105

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RESULT 2
US-09-948-391A-4
; Sequence 4, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met23leu substitution
; OTHER INFORMATION: (recombinant RAPLr1 Met23Leu)
US-09-948-391A-4

Query Match          98.5%; Score 575; DB 10; Length 104;
Best Local Similarity 99.0%; Pred. No. 3.5e-59;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 62 FEFYLSDCNATSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 FEFYLSDCNVTSPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 3
US-09-961-400-4
; Sequence 4, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-4

Query Match          98.5%; Score 575; DB 10; Length 104;
Best Local Similarity 99.0%; Pred. No. 3.5e-59;
Matches 103; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

QY 62 FEFYLSDCNATSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 61 FEFYLSDCNVTSPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 4
US-09-961-400-9
; Sequence 9, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-9

Query Match          97.9%; Score 572; DB 10; Length 111;
Best Local Similarity 98.1%; Pred. No. 8.4e-59;
Matches 103; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 7 QDWLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 56

QY 61 TFEFYLSDCNATSRPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 105
Db 67 TSEFYLSDCNVTSPCKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 111

RESULT 5
US-09-948-391A-8
; Sequence 8, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
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; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Met241Leu
; OTHER INFORMATION: substitution (recombinant Met(-1) RaPLR1 Met23Leu)
US-09-948-391A-8
Query Match          97.8%; Score 571; DB 10; Length 105;
Best Local Similarity 98.1%; Pred. No. 1.le-58;
Matches 103; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MODWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MODWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

Qy 61 TFEFVLSDCNATSRPCKYKLLKSTNTFCVTCEQAAPVHFVGVGHC 105
Db 61 TFEFVLSDCNVTSRPCKYKLLKSTNTFCVTCEQAAPVHFVGVGHC 105

RESULT 6
US-09-948-391A-9
; Sequence 9, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; FILE OF INVENTION: Recombinant Anti-Tumor RNase
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with (His)6 tag, Met at position 7
; OTHER INFORMATION: and Met30Leu substitution (recombinant Met(-1)
; OTHER INFORMATION: RaPLR1 Met23Leu- (His)6)
US-09-948-391A-9
Query Match          97.8%; Score 571; DB 10; Length 111;
Best Local Similarity 98.1%; Pred. No. 1.le-58;
Matches 103; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MODWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 7 MODWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 66

Qy 61 TFEFVLSDCNATSRPCKYKLLKSTNTFCVTCEQAAPVHFVGVGHC 105
Db 67 TFEFVLSDCNVTSRPCKYKLLKSTNTFCVTCEQAAPVHFVGVGHC 111

RESULT 7
US-09-948-391A-6
; Sequence 6, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE OF INVENTION: Recombinant Anti-Tumor RNase
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 (recombinant
; OTHER INFORMATION: Met(-1) RaPLR1)
US-09-948-391A-6
Query Match          97.6%; Score 570; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 1.3e-58;
Matches 102; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MODWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MODWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60

Qy 61 TFEFVLSDCNATSRPCKYKLLKSTNTFCVTCEQAAPVHFVGVGHC 105
Db 61 TFEFVLSDCNVTSRPCKYKLLKSTNTFCVTCEQAAPVHFVGVGHC 105

RESULT 8
US-09-961-400-6
; Sequence 6, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-6
Query Match          97.6%; Score 570; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 1.3e-58;
```

```
Matches 102; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
QY 1 MODWLTFOKKHLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MODWLTFOKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105

RESULT 9
US-09-961-400-2
; Sequence 2, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-2

Query Match 96.7%; Score 565; DB 10; Length 104;
Best Local Similarity 97.1%; Pred. No. 5.le-58;
Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
QY 2 QDWLTFOKKHLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
Db 1 QDWLTFOKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 62 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104

RESULT 10
US-09-948-391A-13
; Sequence 13, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: NEWTON, DIANNE L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.0
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; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Glu2Ser
; OTHER INFORMATION: substitution (recombinant Met (-1) RApLR1 Q1S)
US-09-948-391A-13

Query Match 96.7%; Score 565; DB 10; Length 105;
Best Local Similarity 96.2%; Pred. No. 5.le-58;
Matches 101; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 MODWLTFOKKHLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MSDWLTFOKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105

RESULT 11
US-09-961-400-13
; Sequence 13, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-13

Query Match 96.7%; Score 565; DB 10; Length 105;
Best Local Similarity 96.2%; Pred. No. 5.le-58;
Matches 101; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 MODWLTFOKKHLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
Db 1 MSDWLTFOKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
QY 61 TFEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105
Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 105

RESULT 12
US-09-948-391A-28
; Sequence 28, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: NEWTON, DIANNE L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
```

```

; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: Rana pipiens ribonuclease (RaPLr1) Clone 5alb cDNA
; OTHER INFORMATION: Insert
US-09-948-391A-28

Query Match          96.7%; Score 565; DB 10; Length 127;
Best Local Similarity 97.1%; Pred. No. 6.4e-58;
Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
DB 24 QDWLTFQKKHLNTRDVCNNIMSNLHFCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 83

QY 62 FEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 13
US-09-961-400-28
; Sequence 28, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28

Query Match          96.7%; Score 565; DB 10; Length 127;
Best Local Similarity 97.1%; Pred. No. 6.4e-58;
Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
DB 24 QDWLTFQKKHLNTRDVCNNIMSNLHFCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 83

QY 62 FEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 13
US-09-961-400-28
; Sequence 28, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28

Query Match          96.7%; Score 565; DB 10; Length 127;
Best Local Similarity 97.1%; Pred. No. 6.4e-58;
Matches 101; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLNTRDVCNNILSNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
DB 24 QDWLTFQKKHLNTRDVCNNIMSNLHFCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 83

QY 62 FEYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 84 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127
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RESULT 14
US-09-948-391A-11
; Sequence 11, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: NEWTON, DIANNE L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with GlnSer substitution
; OTHER INFORMATION: (recombinant RaPLr1 Q1S)
US-09-948-391A-11

Query Match          95.9%; Score 560; DB 10; Length 104;
Best Local Similarity 97.1%; Pred. No. 1.9e-57;
Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 3 DDLTFQKKHLNTRDVCNNILSNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 62
DB 2 DDLTFQKKHLNTRDVCNNIMSNLHFCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61

QY 63 BFYLSDCNATSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 62 BFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 15
US-09-961-400-11
; Sequence 11, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-11
```

Query Match 95.9%; Score 560; DB 10; Length 104;
 Best Local Similarity 97.1%; Pred. No. 1.9e-57;
 Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY	3	DWLTFOKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTTF	62
Db	2	DWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTTTS	61
QY	63	EFYLSDCNATSRPCKYKLLKXSTNTFCVTCEQAPVHFVGVGHC	105
Db	62	EFYLSDCNVTSRPCKYKLLKXSTNTFCVTCEQAPVHFVGVGHC	104

Search completed: May 7, 2004, 21:51:56
 Job time : 33.6904 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:38:36 ; Search time 9.5276 Seconds
(without alignments)

1060.090 Million cell updates/sec

Title: US-09-961-400-8

Perfect score: 584

Sequence: 1 MQDWLTFQKKHLTNRDVC.....TFCVTCENQAPVHFVGVC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR_78.*

1: pir1.*

2: pir2.*

3: pir3.*

4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	540	92.5	104	2 A39035	ribonuclease-relat
2	283.5	48.5	111	1 JX0120	ribonuclease-relat
3	283	48.5	111	2 A27121	ribonuclease-relat
4	259.5	44.4	111	2 JX0085	pancreatic ribonuc
5	142	24.3	119	2 S41111	pancreatic ribonuc
6	123	21.1	125	1 A32474	angiogenin [valida
7	119	20.4	124	1 NRUI	pancreatic ribonuc
8	117	20.0	124	1 NRWHK	pancreatic ribonuc
9	114	19.5	128	1 NRGPB	pancreatic ribonuc
10	113.5	19.4	145	1 A35932	angiogenin precurs
11	113	19.3	128	1 NRUC	pancreatic ribonuc
12	111	19.0	127	1 B43825	angiogenin - rabbi
13	109.5	18.8	145	2 I52489	ribonuclease 4 (BC
14	109	18.7	124	1 NRBOB	pancreatic ribonuc
15	109	18.7	128	1 NRKS	pancreatic ribonuc
16	109	18.7	150	1 NRBO	pancreatic ribonuc
17	108	18.5	124	2 S08549	ribonuclease - dom
18	107.5	18.4	123	2 A43825	angiogenin - pig
19	106	18.2	124	1 NRSH	pancreatic ribonuc
20	106	18.2	124	1 NRPRH	pancreatic ribonuc
21	106	18.2	124	1 NRHP	pancreatic ribonuc
22	106	18.2	124	1 NRGB	pancreatic ribonuc
23	106	18.2	124	2 S07141	pancreatic ribonuc
24	106	18.2	128	1 NRYV	pancreatic ribonuc
25	105	18.0	124	1 NRWB	pancreatic ribonuc
26	105	18.0	124	1 NRGN	pancreatic ribonuc
27	104	17.8	124	1 NRGF	pancreatic ribonuc
28	104	17.8	124	1 NRPG	pancreatic ribonuc
29	104	17.8	147	1 NRHUG	angiogenin precurs

30 104 17.8 167 2 S20066 pancreatic-type ri
31 101 17.3 124 1 NRDEO pancreatic ribonuc
32 100 17.1 124 1 NRCM pancreatic ribonuc
33 100 17.1 124 1 NRCM pancreatic ribonuc
34 100 17.1 124 1 NRCM pancreatic ribonuc
35 100 17.1 124 1 NRHO pancreatic ribonuc
36 99.5 17.0 124 2 S08546 pancreatic ribonuc
37 99 17.0 124 1 NRGT pancreatic ribonuc
38 99 17.0 124 1 NRHY pancreatic ribonuc
39 99 17.0 124 1 NRPO pancreatic ribonuc
40 98 16.8 124 1 NEANE pancreatic ribonuc
41 98 16.8 124 1 NREKN pancreatic ribonuc
42 98 16.8 124 1 NRGA pancreatic ribonuc
43 97.5 16.7 119 2 JX0115 pancreatic ribonuc
44 97.5 16.7 155 2 JG6159 eosinophil-associa
45 97 16.6 124 1 NRANT pancreatic ribonuc

ALIGNMENTS

RESULT 1

A39035

ribonuclease-related anti-tumor protein - northern leopard frog (fragment)

C:Species: Rana pipiens (northern leopard frog)

C:Date: 31-Jul-1991 #sequence_revision 31-Jul-1991 #text_change 30-Jun-1993

C:Accession: A39035

R:Ardelet, W.; Mikulski, S.M.; Shogen, K.

J. Biol. Chem. 266: 245-251, 1991

A:Title: Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and earl

A:Reference number: A39035; MUID:91093131; PMID:1985896

A:Accession: A39035

A>Status: preliminary

A:Molecule type: protein

A:Residues: 1-104 <ARD>

C:Superfamily: pancreatic ribonuclease

Query Match 92.5%; Score 540; DB 2; Length 104;

Best Local Similarity 92.3%; Pred. No. 2.8e-47;

Matches 96; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

QY 2 QDWLTFQKKHLTNRDVCNIIISNLFHCKDKNTFYSRPEPVKAICKGIASKNVLTT 61

DB 1 EDWLTFFQKKHITNRDVCNIIISNLFHCKDKNTFYSRPEPVKAICKGIASKNVLTT 60

QY 62 PEFYLSDCNVTSRPCCKYKLLKSTNTFCVTCENQAPVHFVGVC 105

DB 61 SEFYLSDCNVTSRPCCKYKLLKSTNTFCVTCENQAPVHFVGVC 104

RESULT 2

JX0120

ribonuclease-related sialic acid-binding lectin - Japanese frog

C:Species: Rana japonica (Japanese frog)

C:Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999

C:Accession: JX0120

R:Kamiya, Y.; Oyama, F.; Oyama, R.; Sakakibara, F.; Nitta, K.; Kawachi, H.; Takayanagi,

J. Biochem. 108, 139-143, 1990

A:Title: Amino acid sequence of a lectin from Japanese frog (Rana japonica) eggs.

A:Reference number: JX0120; MUID:91035319; PMID:2229005

A:Accession: JX0120

A:Molecule type: protein

A:Residues: 1-111 <KAM>

A:Experimental source: egg

C:Superfamily: pancreatic ribonuclease

C:Keywords: lectin; pyroglutamic acid

F1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

F19-72, 34-82, 52-97, 94-111/Disulfide bonds: #status experimental

Query Match 48.5%; Score 283.5; DB 1; Length 111;

Best Local Similarity 45.9%; Pred. No. 1.7e-21;

Matches 51; Conservative 21; Mismatches 32; Indels 7; Gaps 3;


```
C;Function:
A;Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
C;Superfamily: pancreatic ribonuclease
C;Keywords: angiogenesis; hydrolase; nucleic acid degradation
F;60-68/Region: receptor binding #status predicted
F;14,41,115/Active site: His, Lys, His #status predicted
F;27-82,40-93,58-108/Disulfide bonds: #status experimental

Query Match      21.1%; Score 123; DB 1; Length 125;
Best Local Similarity 32.7%; Pred. No. 2,5e-05;
Matches 32; Conservative 14; Mismatches 32; Indels 20; Gaps 5;

QY 17 DVDNNILSTNLF--HCKDKNTFIYSRPEPVKAICK-----GIASKNVLTTFEY 65
DB 24 DEYCFNMKNRLTRPCXDRNTFIHGKNKDIKAICEDRNGQPYRGDLRIKSKS-----EFQ 78

QY 56 LSDC---NATSR-PCYKYLKXSTNTFCVTCENQAPVHF 99
DB 79 ITICKHKGSSRPPCRYGATEDSRVIVVGCENGLPVPVF 116

RESULT 7
NRUI
pancreatic ribonuclease (EC 3.1.27.5) - cuis
N;Alternate names: RNase 1; RNase A
C;Species: Galea musteloides (cuis)
C;Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 04-Oct-1996
C;Accession: A00827
R;Beintema, J.J.; Neuteboom, B.
J; Mol. Evol. 19, 145-152, 1983
A;Title: Origin of the duplicated ribonuclease gene in guinea-pig: comparison of the ami
A;Reference number: A92957; MUID:87036770; PMID:6571219
A;Accession: A00827
A;Molecule type: protein
A;Residues: 1-124 <BE>
A;Note: about one-third of the molecules lacked Ala-1
C;Comment: The cuis is a rodent belonging to the same subfamily as the guinea pig.
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;194/Binding site: carbonylate (Asn) (covalent) #status absent

Query Match      20.4%; Score 119; DB 1; Length 124;
Best Local Similarity 27.4%; Pred. No. 6.3e-05;
Matches 32; Conservative 21; Mismatches 40; Indels 24; Gaps 7;

QY 5 LTFQKKHL-----TNRDVCNNIL---STNLFHCKDKNTFIYSRPEPVKAIC--KGI 52
DB 6 MKFORQHMDSGHPDNTN--YCNEVMVRRSMTQGRCKPVNTFVHEPLEAVQAVCSQKNV 63

QY 53 IASKNVLTTFEY----LSDCNATSRP---CKYLLKXSTNTFCVTCEN--QAPVHF 99
DB 64 PCKNGQTCYQSHSSMRITDCRVTSKYPNCYSRWTOAKSIIVACEGDPVPVPHF 120

RESULT 8
NRWHK
pancreatic ribonuclease (EC 3.1.27.5) - minke whale
N;Alternate names: RNase 1; RNase A
C;Species: Balaeoptera acutorostrata (minke whale, lesser rorqual)
C;Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 03-Jun-1994
C;Accession: A00818
R;Emmens, M.; Welling, G.W.; Beintema, J.J.
Biochem. J. 157, 317-323, 1976
A;Title: The amino acid sequence of pike whale (lesser rorqual) pancreatic ribonuclease.
A;Reference number: A00818; MUID:76277855; PMID:962870
A;Accession: A00818
A;Molecule type: protein
A;Residues: 1-124 <EM>
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
```

```
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
F;76/Binding site: carbohydrate (Asn) (covalent) (partial) #status experimental

Query Match      20.0%; Score 117; DB 1; Length 124;
Best Local Similarity 26.9%; Pred. No. 0.0001;
Matches 32; Conservative 16; Mismatches 43; Indels 28; Gaps 6;

QY 5 LTFQKKHLTNRDVC-----CNNILSTNLF---HCKDKNTFIYSRPEPVKAICKGIASK 56
DB 6 MKFORQHMDSGNSPNNPNYCNQMMRRKMTQGRCKPVNTFVHESLEDDKAVC-----SQK 61

QY 57 NVL-----TTFEYLSDCNATSRP-----CKYLLKXSTNTFCVTCENQ--APVHF 99
DB 62 NVLCKNGRTNCTYESNTMHTIDCRQTGSSKYPNCAYKTSQEKHIIIVACEGNPYVPVHF 120

RESULT 9
NRGPB
pancreatic ribonuclease (EC 3.1.27.5) B - guinea pig (tentative sequence)
N;Alternate names: RNase IB
C;Species: Cavia porcellus (guinea pig)
C;Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 31-Mar-2000
C;Accession: A00826
R;van den Berg, A.; van den Hende-Timmer, L.; Hofsteenge, J.; Gastra, W.; Beintema, J.J.
Eur. J. Biochem. 75, 91-100, 1977
A;Title: Guinea pig pancreatic ribonucleases. Isolation, properties, primary structure a
A;Reference number: A91247; MUID:77185023; PMID:862624
A;Accession: A00826
A;Molecule type: protein
A;Residues: 1-128 <VAN>
A;Note: 64-Pro was also found
C;Superfamily: pancreatic ribonuclease
C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
F;12,41,119/Active site: His, Lys, His #status predicted
F;21,34/Binding site: carbohydrate (Asn) (covalent) #status experimental
F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted

Query Match      19.5%; Score 114; DB 1; Length 128;
Best Local Similarity 25.0%; Pred. No. 0.00021;
Matches 29; Conservative 25; Mismatches 40; Indels 22; Gaps 7;

QY 5 LTFQKKHL-----TNRDVCNNIL---STNLFHCKDKNTFIYSRPEPVKAIC--KGI 53
DB 6 MKFORQHMDSGSPSPSNY--CNVMIRRMNTQGRCKPVNTFVHESLADVQAVCFQKNVL 64

QY 54 ASKNVLTTFEY----LSDCNATSRP---CKYLLKXSTNTFCVTCENQ--APVHF 99
DB 65 CKNGQTCYQSYSMRITDCRVTSKYPNCYSRMSQAQKSIIVACEGDPVPVPHF 120

RESULT 10
A35932
angiogenin precursor - mouse
N;Alternate names: angiogenin factor
N;Contains: ribonuclease (EC 3.1.27.-)
C;Species: Mus musculus (house mouse)
C;Date: 09-Nov-1990 #sequence_revision 09-Nov-1990 #text_change 18-Jun-1999
C;Accession: A35932
R;Bond, M.D.; Vallee, B.L.
Biochem. Biophys. Res. Commun. 171, 988-995, 1990
A;Title: Isolation and sequencing of mouse angiogenin DNA.
A;Reference number: A35932; MUID:91025023; PMID:2222458
A;Accession: A35932
A;Status: not compared with conceptual translation
A;Molecule type: DNA
A;Residues: 1-145 <BON>
A;Cross-references: G>U22516; NID:g726325; PIDN:AAA91366.1; PID:g726326
C;Genetics:
C;Introns: #status absent
C;Function:
A;Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
C;Superfamily: pancreatic ribonuclease
C;Keywords: angiogenesis; hydrolase; nucleic acid degradation; pyroglutamic acid
```



```

Query Match      18.7%; Score 109; DB 1; Length 128;
Best Local Similarity 28.2%; Pred. No. 0.00066;
Matches 33; Conservative 18; Mismatches 38; Indels 28; Gaps 7;

Qy 7 FQKHL-----TWTRDVCNNIL-STNLF--HCQKNTFYRSREPVAICGIIASKNV 58
|||::: ||::: ||::: ||::: ||::: ||::: ||::: ||::: ||::: ||:::
Db 8 FQRIHDSGSPSTPNPYCNAMKSRNMTQERCKPVNTFVHEPLADVOAVC-----FQKNV 63

Qy 59 -----LTTTFEYILSDCNATR-----PCKYKLKSNFTTFCVTENQ--APVHF 99
: ||::: ||::: ||::: ||::: ||::: ||::: ||::: ||::: ||::: ||:::
Db 64 PKNGQSNCEYSTNMHITDRLTSNGKFPDCLYRTSOEKSIIIVACEGNVPVPVHF 120

```


GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:30:40 ; Search time 5.30402 Seconds
(without alignments)
1030.796 Million cell updates/sec

Title: US-09-961-400-8
Perfect score: 584
Sequence: 1 MQDWLTFOKHLTNRDVDC.....TFCVTCENQAPVHFVGVGHC 105

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	543	93.0	104	1 RN30_RANPI	P22069 rana pipien
2	286	49.0	133	1 RNPO_RANCA	P11916 rana catesb
3	283.5	48.5	111	1 LECS_RANJA	P18839 rana japoni
4	259.5	44.4	111	1 RNPL_RANCA	P14626 rana catesb
5	142	24.3	119	1 RNP_IGUIG	P80287 iguana igua
6	125.5	21.5	145	1 ANGE_MOUSE	Q64438 mus musculu
7	123.5	21.1	146	1 ANGE_CERAE	Q8wn66 cercopithec
8	123	21.1	148	1 ANGI_BOVIN	P10152 bos taurus
9	119	20.4	124	1 RNP_GALMU	P00680 galea muste
10	117	20.0	124	1 RNP_BALAC	P00673 balaenopter
11	114.5	19.6	146	1 ANGI_MACMU	Q8wn63 macaca mula
12	114	19.5	128	1 RNBP_CAVPO	P00679 cavia porce
13	113.5	19.4	145	1 ANGI_MOUSE	P21570 mus musculu
14	113	19.3	128	1 RNP_MYOCO	P00676 myocastor c
15	112.5	19.3	146	1 ANGI_PAPHA	Q8wn64 papio hamad
16	111.5	19.1	147	1 RNS4_PANTR	Q8hzq0 pan troglod
17	111	19.0	125	1 ANGI_RABIT	P31347 cryctolagus
18	109.5	18.8	147	1 RNS4_HUMAN	P34096 homo sapien
19	109	18.7	128	1 RNP_PROGU	P04059 proechinys
20	109	18.7	146	1 ANGI_MIOTA	Q8wn65 miopithecus
21	109	18.7	150	1 RNP_BOVIN	P00656 bos taurus
22	108.5	18.6	155	1 ECP4_MOUSE	Q35291 mus musculu
23	107.5	18.4	123	1 ANGI_PIG	P31346 sus scrofa
24	106	18.2	123	1 ANGI_BOVIN	P08029 bos taurus
25	106	18.2	124	1 RNP_AEPME	P07847 aepyceros m
26	106	18.2	124	1 RNP_ANTAM	P00668 antilocapra
27	106	18.2	124	1 RNP_CHIBR	P00675 chinchilla
28	106	18.2	124	1 RNP_HIPAM	P00672 hippopotamu
29	106	18.2	124	1 RNP_SHEEP	P00661 ovis aries
30	106	18.2	128	1 RNP_HYDHY	P00677 hydrochoeru
31	105	18.0	124	1 RNP_BUBBU	P00657 bubalus bub
32	105	18.0	124	1 RNP_CONTA	P00660 connochaete
33	105	18.0	124	1 RNP_GAZTH	P07848 gazella tho

34	105	18.0	146	1 ANGI_SAGOE	Q8wn62 sequinus oe
35	104	17.8	124	1 RNP_GIRCA	P00662 giraffa cam
36	104	17.8	124	1 RNP_PIG	P00671 sus scrofa
37	104	17.8	146	1 ANGI_SAISC	Q8wn60 saimiri sci
38	104	17.8	147	1 ANGI_HUMAN	P03950 homo sapien
39	104	17.8	147	1 ANGI_PANTR	Q8wn68 pan troglod
40	104	17.8	167	1 RNBR_BOVIN	P39873 bos taurus
41	103.5	17.7	119	1 RNS4_MOUSE	O35290 mus musculu
42	103	17.6	156	1 ECP3_MOUSE	Q9wul1 myoxus glis
43	103	17.6	156	1 RNP_MYOGL	O46529 saimiri sci
44	102.5	17.6	150	1 RNS6_SAISC	Q29542 giraffa cam
45	102	17.5	141	1 RNBR_GIRCA	

ALIGNMENTS

RESULT 1					
RN30_RANPI					
ID	RN30_RANPI	STANDARD;	PRT;	104 AA.	
AC	P22069;				
DT	01-AUG-1991 (Rel. 19, Created)				
DT	01-FEB-1994 (Rel. 28, Last sequence update)				
DT	28-FEB-2003 (Rel. 41, Last annotation update)				
DE	P-30 protein (EC 3.1.1.27.-) (Onconase).				
OS	Rana pipiens (Northern leopard frog).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.				
OX	NCBI_TaxID=8404;				
RN	[1]				
RP	SEQUENCE.				
RC	TISSUE=Embryo;				
RX	MEDLINE=91093131; PubMed=1985896;				
RA	Ardelt W., Mikulski S.M., Shogen K.;				
RT	"Amino acid sequence of an anti-tumor protein from Rana pipiens				
RT	oocytes and early embryos. Homology to pancreatic ribonucleases.";				
RL	J. Biol. Chem. 266:245-251 (1991).				
RN	[2]				
RP	3D-STRUCTURE MODELING.				
RX	MEDLINE=93066156; PubMed=1438177;				
RA	Mosimann S.C., Johns K.L., Ardelt W., Mikulski S.M., Shogen K.;				
RA	James M.N.G.;				
RT	"Comparative molecular modeling and crystallization of P-30 protein:				
RT	a novel antitumor protein of Rana pipiens oocytes and early				
RT	embryos.";				
RL	Proteins 14:392-400 (1992).				
RN	[3]				
RP	X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).				
RX	MEDLINE=94166079; PubMed=8120892;				
RA	Mosimann S.C., Ardelt W., James M.N.G.;				
RT	"Refined 1.7 A X-ray crystallographic structure of P-30 protein, an				
RT	amphibian ribonuclease with anti-tumor activity.";				
RL	J. Mol. Biol. 236:1141-1153 (1994).				
CC	!- FUNCTION: Basic protein with antiproliferative/cytotoxic activity				
CC	against several tumor cell lines in vitro, as well as antitumor				
CC	in vivo. It exhibits a ribonuclease-like activity against high				
CC	molecular weight ribosomal RNA.				
CC	!- DEVELOPMENTAL STAGE: Early embryos (up to four blastomere stage).				
CC	!- SIMILARITY: Belongs to the pancreatic ribonuclease family.				
DR	PDB; LONC; 31-JAN-94.				
DR	InterPro; IPR001427; RNaseA.				
DR	Pfam; PF00074; rnasea; 1.				
DR	ProDom; PD000535; RNaseA; 1.				
DR	SMART; SM00092; RNase_Pc; 1.				
DR	PROSITE; PS00127; RNASE_PANCREATIC; 1.				
DR	Hydrolase; Nuclease; Endonuclease; 3D-structure;				
KW	Pyrolidone carboxylic acid.				
FT	MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.				
FT	ACT_SITE 10 10				
FT	ACT_SITE 31 31				
FT	ACT_SITE 97 97				
FT	DISULFID 19 68				
FT	DISULFID 30 75				

FT DISULFID 48 90
 FT FT DISULFID 87 104
 FT HELIX 3 10
 FT STRAND 11 12
 FT HELIX 19 22
 FT TURN 23 24
 FT TURN 26 30
 FT STRAND 33 38
 FT STRAND 41 45
 FT HELIX 46 48
 FT TURN 49 50
 FT STRAND 55 58
 FT STRAND 63 70
 FT TURN 74 75
 FT STRAND 77 84
 FT STRAND 86 91
 FT TURN 92 93
 FT STRAND 94 101
 SQ SEQUENCE 104 AA; 11845 MW; 22A753C2F9E566B4 CRC64;
 Query Match 93.0%; Score 543; DB 1; Length 104;
 Best Local Similarity 93.3%; Pred. No. 1.4e-51;
 Matches 97; Conservative 3; Mismatches 4; Indels 0; Gaps 0;
 QY 2 QDWLTQKHLNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
 Db 1 QDWLTQKHLNTRDVCNMLSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 QY 62 FEYVSDCNATSPCKYKLLKSNITFCVTCENQAPVHFVGVGHC 105
 Db 61 SEFYVSDCNATSPCKYKLLKSNITFCVTCENQAPVHFVGVGSC 104
 RESULT 2
 ID RNPO RANCA STANDARD; PRT; 133 AA.
 AC P11916; Q9PWR7;
 DT 01-OCT-1989 (Rel. 12, Created)
 DT 10-OCT-2003 (Rel. 42, Last sequence update)
 DE 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Ribonuclease, oocytes precursor (EC 3.1.27.-) (RC-RNase) (Sialic acid-binding lectin) (SBL-C).
 GN RCR.
 OS Rana catesbeiana (Bull frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
 OX NCBI_TaxID=8400;
 RN [1]_TaxID=8400;
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=98165825; PubMed=94937370;
 RA Huang H.C., Wang S.C., Leu Y.J., Lu S.C., Liao Y.D.;
 RT "The Rana catesbeiana rcr gene encoding a cytotoxic ribonuclease.
 RT Tissue distribution, cloning, purification, cytotoxicity, and active
 RT residues for RNase activity.";
 RL J. Biol. Chem. 273:6395-6401(1998).
 RN [2]
 RP SEQUENCE OF 23-133.
 RC TISSUE=Egg;
 RX MEDLINE=87299649; PubMed=3304421;
 RA Titani K., Takio K., Kuwada M., Nitta K., Sakakibara F., Kawauchi H.,
 RA Takayanagi G., Hakomori S.;
 RT "Amino acid sequence of sialic acid binding lectin from frog (Rana
 RT catesbeiana) eggs.";
 RL Biochemistry 26:2189-2194(1987).
 RN [3]
 RP CHARACTERIZATION, AND SEQUENCE OF 81-101.
 RX MEDLINE=92220613; PubMed=1373237;
 RA Liao Y.-D.;
 RT "A pyrimidine-guanine sequence-specific ribonuclease from Rana
 RT catesbeiana (bullfrog) oocytes.";
 RL Nucleic Acids Res. 20:1371-1377(1992).
 RN [4]

RP CHARACTERIZATION.
 RC TISSUE=Egg;
 RX MEDLINE=93192604; PubMed=8448385;
 RA Nitta K., Oyama F., Oyama R., Sekiguchi K., Kawauchi H.,
 RA Takayanagi Y., Hakomori S., Titani K.;
 RT "Ribonuclease activity of sialic acid-binding lectin from Rana
 RT catesbeiana eggs.";
 RL Glycobiology 3:37-45(1993).
 RN [5]
 RP STRUCTURE BY NMR OF 23-133.
 RX MEDLINE=98437383; PubMed=9761686;
 RA Chang C.-F., Chen C., Chen Y.-C., Hom K., Huang R.-F., Huang T.H.;
 RT "The solution structure of a cytotoxic ribonuclease from the oocytes
 RT of Rana catesbeiana (bullfrog).";
 RL J. Mol. Biol. 283:231-244(1998).
 CC -!- FUNCTION: Preferentially cleaves single-stranded RNA at pyrimidine
 CC residues with a 3' flanking guanine. Hydrolyzes poly(U) and poly(C)
 CC as substrates, and prefers the former. The S-lectins in frog eggs
 CC may be involved in the fertilization and the development of the frog
 CC embryo. This lectin agglutinates various animal cells, including
 CC normal lymphocytes, erythrocytes, and fibroblasts of animal and
 CC human origin. It is cytotoxic against several tumor cells.
 CC -!- SUBUNIT: Monomer.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
 CC
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 CC use by non-profit institutions as long as its content is in no way
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 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch)

CC EMBL; AF039104; AAD10702.1; --
 CC PIR; A27121; A27121.
 DR PDB; 1BC4; 28-OCT-98.
 DR PDB; 1M07; 21-JAN-03.
 DR InterPro; IPR001427; RNaseA.
 DR Pfam; PF00074; RNaseA; 1.
 DR ProDom; PD000535; RNaseA; 1.
 DR SMART; SM00092; RNaseA; 1.
 DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
 DR Hydrolase; Nuclease; Endonuclease; Sialic acid; Lectin; 3D-structure;
 KW Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 22
 FT CHAIN 23 133 RIBONUCLEASE, OOCYTES.
 FT MOD RES 23 23 PYRROLIDONE CARBOXYLIC ACID.
 FT ACT_SITE 32 32
 FT ACT_SITE 57 57
 FT ACT_SITE 125 125
 FT DISULFID 41 93
 FT DISULFID 56 103
 FT DISULFID 74 118
 FT DISULFID 115 132
 FT HELIX 25 32
 FT HELIX 41 45
 FT TURN 48 49
 FT STRAND 59 63
 FT HELIX 67 73
 FT TURN 74 74
 FT STRAND 79 84
 FT STRAND 90 95
 FT STRAND 105 110
 FT STRAND 114 119
 FT TURN 120 121
 FT STRAND 122 129
 SQ SEQUENCE 133 AA; 14762 MW; A7D62594F7D16F0C CRC64;
 Query Match 49.0%; Score 286; DB 1; Length 133;
 Best Local Similarity 49.5%; Pred. No. 6.9e-24;
 Matches 55; Conservative 14; Mismatches 34; Indels 8; Gaps 3;

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QY 2 QDWLTFFQKHLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 57
DB 23 QNWATFQKHLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 81
QY 58 VLTTFEYLSDCNATS---RCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 82 VLTSTTFQNLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 132

RESULT 3
LECS_RANJA STANDARD; PRT; 111 AA.
AC P18839;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Sialic acid-binding lectin (EC 3.1.27.-).
OS Rana japonica (Japanese reddish frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX NCBI_TaxID=8402;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Egg;
RX MEDLINE=91035319; PubMed=2229005;
RA Kamiya Y., Oyama F., Oyama R., Sakakibara F., Nitta K., Kawauchi H.,
RA Takayanagi Y., Titani K.;
RT "Amino acid sequence of a lectin from Japanese frog (Rana japonica)
RT eggs.";
RT J. Biochem. 108:139-143(1990).
RC CC -!- FUNCTION: The S-lectins in frog eggs may be involved in the
CC fertilization and development of the frog embryo. This lectin
CC preferentially agglutinate a large variety of tumor cells, but it
CC does not agglutinate non-transformed cells and erythrocytes.
CC -!- SUBUNIT: Monomer.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR: JX0120; JX0120.
DR HSSP; P11916; 1BC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase PC; 1.
DR PROSITE; PS00127; RNASE PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Sialic acid; Lectin;
KW Pyrrolidone carboxylic acid. PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 1 1
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 35 35 BY SIMILARITY.
FT ACT_SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12326 MW; FDEBDF3834ED679 CRC64;

Query Match 48.5%; Score 283.5; DB 1; Length 111;
Best Local Similarity 45.3%; Pred. No. 1.1e-23;
Matches 51; Conservative 21; Mismatches 32; Indels 7; Gaps 3;

QY 2 QDWLTFFQKHLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 57
DB 1 QNWAKFQKHLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 60
QY 58 VLTTFEYLSDC--NATS-RCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 61 VLTSTTFQNLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 111

RESULT 4
RNPL_RANCA STANDARD; PRT; 111 AA.
ID RNPL_RANCA
AC P14626;

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DT 01-APR-1990 (Rel. 14, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease, liver (EC 3.1.27.5).
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP SEQUENCE.
RC TISSUE=Liver;
RX MEDLINE=90130374; PubMed=2613682;
RA Nitta K., Katayama N., Okabe Y., Iwama M., Watanabe H., Abe Y.,
RA Okazaki T., Ohgi K., Irie M.;
RT "Primary structure of a ribonuclease from bullfrog (Rana catesbeiana)
RT liver.";
RT J. Biochem. 106:729-735(1989).
RC CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR: JX0085; JX0085.
DR HSSP; P11916; 1BC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase PC; 1.
DR PROSITE; PS00127; RNASE PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Pyrrolidone carboxylic acid.
FT MOD_RES 1 1
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 35 35 BY SIMILARITY.
FT ACT_SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12461 MW; D64BA72456C10788 CRC64;

Query Match 44.4%; Score 259.5; DB 1; Length 111;
Best Local Similarity 42.3%; Pred. No. 4e-21;
Matches 47; Conservative 18; Mismatches 39; Indels 7; Gaps 2;

QY 2 QDWLTFFQKHLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 57
DB 1 QNWAKFQKHLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 60
QY 58 VLTTFEYLSDC--NATS-RCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
DB 61 ELSTTFQNLNTRDVCNNILSTNLF----HCKDKNTFTYSRPEPVKAICKGIASKN 111

RESULT 5
RNPL_IGUIG STANDARD; PRT; 119 AA.
ID RNPL_IGUIG
AC P80287;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
OS Iguana iguana (Common iguana).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Iguania; Iguanidae; Iguaninae; Iguana.
OX NCBI_TaxID=8517;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=94139745; PubMed=8307028;
RA Zhao W., Beintema J.J., Hofsteenge J.;
RT "The amino acid sequence of iguana (Iguana iguana) pancreatic
RT ribonuclease.";
RT Eur. J. Biochem. 219:641-646(1994).

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DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase PC; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Angiogenesis;
KW Protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24
FT CHAIN 25 146
FT MOD_RES 25 25
FT ACT_SITE 37 37
FT ACT_SITE 64 64
FT ACT_SITE 138 138
FT DISULFID 50 105
FT DISULFID 63 116
FT DISULFID 81 131
FT DISULFID 146 AA; 16444 MW; 278601128588DF9 CRC64;
SQ
Query Match 21.1%; Score 123.5; DB 1; Length 146;
Best Local Similarity 29.7%; Pred. No. 2.1e-06;
Matches 30; Conservative 17; Mismatches 31; Indels 23; Gaps 4;
Qy 6 TFQKKHLNTRDVCNNILTNLHCKDKNTFIYSRPPVKAIC---KGIASKNV-LTT 61
Db 53 TMRRLHTSP-----CKDINTFIHGKHHKAIKAGDENGPNPYGNLRISK 97
Qy 62 FEEVLSDCN---ATSRPCKYKLKSTNTFCVTCENQAPVH 98
Db 98 SPFQVTTNLRGGSPRPPCQVTRATGRSNIVVGCENGLPVH 138

RESULT 8
ANGI_BOVIN
ID ANGI_BOVIN STANDARD; PRT; 148 AA.
AC F10152; Q9GKP9;
DT 01-MAR-1989 (Rel. 10, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Angiogenin-1 precursor (EC 3.1.27.-).
GN ANGI OR ANG.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OC NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Chang S.-I.;
RT "Cloning, sequencing, and expression of bovine angiogenin.";
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE OF 24-148.
RC TISSUE=Milk;
RX MEDLINE=89065101; PubMed=3197838;
RA Maes P., Damart D., Rommens C., Montreuil J., Spik G., Tartar A.;
RT "The complete amino acid sequence of bovine milk angiogenin.";
RL FEBS Lett. 241:41-45 (1988).
RN [3]
RP SEQUENCE OF 24-148.
RC TISSUE=Plasma;
RX MEDLINE=89375344; PubMed=2775757;
RA Bond M.D., Strydom D.J.;
RT "Amino acid sequence of bovine angiogenin.";
RL Biochemistry 28:6110-6113 (1989).
RN [4]
RP CHARACTERIZATION, AND SEQUENCE OF 25-55.
RC TISSUE=Plasma;
RX MEDLINE=89118214; PubMed=3064806;
RA Bond M.D., Vallee B.L.;
RT "Isolation of bovine angiogenin using a placental ribonuclease inhibitor binding assay.";
RL Biochemistry 27:6282-6287 (1988).

[5]
RN X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS).
RP MEDLINE=95224057; PubMed=7708754;
RA Acharya K.R., Shapiro R., Riordan J.F., Vallee B.L.;
RT "Crystal structure of bovine angiogenin at 1.5-A resolution.";
RN [6]
RP Proc. Natl. Acad. Sci. U.S.A. 92:2949-2953 (1995).
RN STRUCTURE BY NMR.
RP MEDLINE=96280645; PubMed=8688423;
RA Lequin O., Albaret C., Bontems F., Spik G., Lallemand J.-Y.;
RT "Solution structure of bovine angiogenin by 1H nuclear magnetic resonance spectroscopy.";
RN Biochemistry 35:8870-8880 (1996).
CC FUNCTION: May function as a tRNA-specific ribonuclease that binds to actin on the surface of endothelial cells; once bound, angiogenin is endocytosed and translocated to the nucleus, thereby promoting the endothelial invasiveness necessary for blood vessel formation. Angiogenin induces vascularization of normal and malignant tissues. Abolishes protein synthesis by specifically hydrolyzing cellular tRNAs. Binds tightly to placental ribonuclease inhibitor and has very low ribonuclease activity.
CC SUBCELLULAR LOCATION: Secreted.
CC TISSUE SPECIFICITY: Serum and milk.
CC SIMILARITY: Belongs to the pancreatic ribonuclease family.
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DR EMBL; AF135124; AAG47631.1; -.
DR PDB; 1AGI; 03-APR-96.
DR PDB; 1GIO; 07-DEC-96.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase PC; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Angiogenesis;
KW Protein synthesis inhibitor; Signal; 3D-structure.
FT SIGNAL 1 23
FT CHAIN 24 148 ANGIOGENIN-1.
FT ACT_SITE 37 37
FT ACT_SITE 64 64
FT ACT_SITE 138 138
FT DISULFID 50 105
FT DISULFID 63 116
FT DISULFID 81 131
SQ SEQUENCE 148 AA; 16969 MW; E7999124CBB523DD CRC64;
Query Match 21.1%; Score 123; DB 1; Length 148;
Best Local Similarity 32.7%; Pred. No. 2.5e-06;
Matches 32; Conservative 14; Mismatches 32; Indels 20; Gaps 5;
Qy 17 DVDCCNLTSTNLF--HCKDKNTFIYSRPPVKAICK-----GIIASKNVLTFFFY 65
Db 47 DEYCFNMKNRRLTRPCKDNTFIHGKNDIKAIKCEDRNGQPYRGDLRISK-----EFQ 101
Qy 66 LSDC---NATSR-PCKYKLKSTNTFCVTCENQAPVHF 99
Db 102 ITICKHKGSSRPCKRYGATEDSRVIVGCEGLPVHF 139

RESULT 9
RNP_GALMU
ID RNP_GALMU STANDARD; PRT; 124 AA.
AC P00580;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)

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EMBL: AF441667; AAL61649.1; -
InterPro: IPR001427; RNaseA.
Pfam: PF00074; RNaseA.1.
PRINTS; PR00794; RIBONUCLEASE.
ProDom; PD000535; RNaseA.1.
SMART; SM00092; RNase_Pc; 1.
PROSITE; PS00127; RNASE PANCREATIC; 1.
Hydrolase; Nuclease; Endonuclease; Angiogenesis;
Signal; Pyrrolidone carboxylic acid.
KW Protein synthesis inhibitor; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24
FT CHAIN 25 146
FT MOD_RES 25 25
FT ACT_SITE 37 37
FT ACT_SITE 64 64
FT ACT_SITE 138 138
FT DISULFID 50 105
FT DISULFID 63 116
FT DISULFID 81 131
FT SEQUENCE 146 AA; E39A89215DB2A244 CRC64;

Query Match 19.6%; Score 114.5; DB 1; Length 146;
Best Local Similarity 27.7%; Pred. No. 2e-05;
Matches 28; Conservative 17; Mismatches 33; Indels 23; Gaps 4;

Qy 6 TFQKKHNTDVCNNILSTNLFHCKDKNTFYSRPVPKAIK---KGIIASKNV-LTT 61
Db 53 TMRRLHLP-----CKDINTFVGNRHHTAICDENGSPYGNLRIST 97
Qy 62 FEFLSDC---NATSRPKYKLLKSTNTFCVTCENQAPVH 98
Db 98 SPFQVTKLGGSPRCPQYRATGRSRNIVVGCNGLPVH 138

RESULT 12
RNPB CAVPO STANDARD; PRT; 128 AA.
AC P00679;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic B (EC 3.1.27.5) (RNase IB).
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=77185023; PubMed=862624;
RA van den Berg A., van den Hende-Timmer L., Hofsteenge J., Gaastra W.,
RA Beintema J.J.;
RT "Guinea-pig pancreatic ribonucleases. Isolation, properties, primary
RT structure and glycosylation.";
RL Eur. J. Biochem. 75:91-100(1977).
CC -1- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Pancreas.
CC -1- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; A00826; NRGPB.
DR HSP; P00656; ISRN.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA.1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA.1.
DR SMART; SM00092; RNase_Pc; 1.

DR PROSITE; PS00127; RNASE PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Glycoprotein.
FT DISULFID 26 84
FT DISULFID 40 95
FT DISULFID 58 110
FT DISULFID 65 72
FT ACT_SITE 12 12
FT ACT_SITE 41 41
FT ACT_SITE 119 119
FT CARBOHYD 21 21
FT CARBOHYD 34 34
FT VARIANT 64 64
FT SEQUENCE 128 AA; A2F4101A1A33B93B CRC64;

Query Match 19.5%; Score 114; DB 1; Length 128;
Best Local Similarity 25.0%; Pred. No. 1.9e-05;
Matches 29; Conservative 25; Mismatches 40; Indels 22; Gaps 7;

Qy 5 LTFQKKHL-----TNRDVCNNIL---STNLFHCKDKNTFYSRPVPKAIK---KGII 53
Db 6 MKFORQHMDEGSPSPSSSNY---CNVMIRNMTQGRCKPVTNVFVHESLADVQAVCFQKNVL 64
Qy 54 ASKNVLTTFEY----LSDCNATSRP---CKYKLLKSTNTFCVTCENQ---APVHF 99
Db 65 CKNGQTNCYOSYSRMRITDCRVTSSTKFPNCSYMSQAQKSIIVACEGDPVPVPHF 120

RESULT 13
ANGI_MOUSE STANDARD; PRT; 145 AA.
ID ANGI_MOUSE
AC P21570;
DT 01-MAY-1991 (Rel. 18, Created)
DT 01-MAY-1991 (Rel. 18, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Angiogenin precursor (BC 3.1.27.-) (Ribonuclease 5) (RNase 5).
GN ANG.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=91025023; PubMed=2222458;
RA Bond M.D., Vallee B.L.;
RT "Isolation and sequencing of mouse angiogenin DNA.";
RL Biochem. Biophys. Res. Commun. 171:988-995(1990).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=FVB/N; TISSUE=Liver;
RX MEDLINE=22388257; PubMed=12477932;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Schuler G.D.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Hsieh F.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.P., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Munz D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length
RT human and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [3]
RP PARTIAL SEQUENCE.
RC TISSUE=Serum;

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:25:55 ; Search time 44.363 Seconds
(without alignments)

662.376 Million cell updates/sec

Title: US-09-961-400-11

Perfect score: 577

Sequence: 1 SDMLTFQKHLTNTRDVDCN.....TFCVTCENQAPVHFVGVGHC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A_Geneseq_29Jan04.*

1: geneseqp1980s.*

2: geneseqp1990s.*

3: geneseqp2000s.*

4: geneseqp2001s.*

5: geneseqp2002s.*

6: geneseqp2003as.*

7: geneseqp2003bs.*

8: geneseqp2004s.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	577	100.0	104	2	AAV28870
2	577	100.0	105	2	AAV28871
3	573	99.3	104	2	AAV28865
4	573	99.3	105	2	AAV28867
5	573	99.3	127	2	AAV28879
6	570	98.8	104	2	AAV28866
7	570	98.8	105	2	AAV28869
8	556	96.4	104	2	AAW06544
9	555	96.2	112	2	AAW35118
10	555	96.2	251	2	AAW35134
11	555	96.2	254	2	AAW35135
12	555	96.2	355	2	AAW35133
13	555	96.2	355	2	AAW35129
14	555	96.2	366	2	AAW35132
15	551	95.5	104	2	AAW12344
16	551	95.5	104	2	AAW12343
17	551	95.5	104	2	AAW00736
18	551	95.5	104	2	AAW14065
19	551	95.5	104	2	AAW06543
20	551	95.5	104	2	AAW30301
21	551	95.5	104	2	AAW88233
22	551	95.5	104	2	AAV33322
23	551	95.5	104	4	ABG31666
24	551	95.5	104	5	ABG32650
25	551	95.5	105	2	AAW35123

ALIGNMENTS

RESULT 1

AAV28870

ID AAV28870 standard; protein; 104 AA.

XX AC AAV28870;

XX DT 25-JAN-2000 (first entry)

XX DE Recombinant RaPLR1 GlnSer amino acid sequence.

XX KW Recombinant Rana pipiens ribonuclease; RaPLR1 GlnSer; covalently bound;

XX KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; frog;

XX KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;

XX KW recombinant ribonuclease; cytotoxic fusion protein; cancer; RNase;

XX KW autoimmune disease.

XX OS Rana pipiens.

XX OS Synthetic.

XX PH Key

XX FT Misc-difference 1

XX FT Key

XX FT Location/Qualifiers

XX FT /note= "Wild type Gln replaced with Ser"

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

XX FT

CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the
 CC proteins to be fused in-frame with ligand binding moieties to form
 CC cytotoxic fusion proteins. They can be used for treatment of cancer and
 CC diseases.

XX SQ Sequence 104 AA;

Query Match 100.0%; Score 577; DB 2; Length 104;
 Best Local Similarity 100.0%; Pred. No. 7e-62;
 Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 |||||
 Db 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 |||||
 QY 61 SEFYLSDCNVTSPCKYKLLKSKSTNFCVTCENQAPVHFVGVGHC 104
 |||||
 Db 61 SEFYLSDCNVTSPCKYKLLKSKSTNFCVTCENQAPVHFVGVGHC 104
 |||||

RESULT 2

AA28871
 ID AAY28871 standard; protein; 105 AA.

XX AC AAY28871;

XX DT 25-JAN-2000 (first entry)

XX DE Recombinant Met (-1) RaPLR1 Gln1Ser amino acid sequence.

XX KW Recombinant Met (-1) Rana pipiens ribonuclease Gln1Ser; RaPLR1; CD22;
 KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease; RNase.

XX OS Rana pipiens.
 OS Synthetic.

XX EH Key Location/Qualifiers

FT Misc-difference 1 /note= "Met not found in wild type RaPLR1"

FT Misc-difference 2 /note= "Wild type Gln replaced with Ser"

FT FT

XX PN WO950398-A2.

XX PD 07-OCT-1999.

XX PF 26-MAR-1999; 99WO-US006641.

XX PR 27-MAR-1998; 98US-0079751P.

XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX PI Rybak SM, Newton DL;

XX DR WPI; 1999-610847/52.

XX DR N-PSDB; AA208129.

XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
 XX treating cancers, viral infections or autoimmune diseases.

XX PS Claim 34; Page 61; 71pp; English.

XX CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1 and Gln2Ser. Carboxy terminal end of
 CC recombinant RaPLR1 has a covalently bound ligand binding moiety, which
 CC can be a LL2 antibody directed against CD22 on cancerous B cells or human
 CC chorionic gonadotrophin (hCG) effective against Kaposi's sarcoma cells.
 CC Recombinant ribonucleases can be expressed in bacteria without an N-

CC terminal methionine due to the presence of a signal peptide that is
 CC cleaved by bacteria. The soluble expression of ribonuclease allows the
 CC proteins to be fused in-frame with ligand binding moieties to form
 CC cytotoxic fusion proteins. They can be used for treatment of cancer and
 CC autoimmune diseases

XX SQ Sequence 105 AA;

Query Match 100.0%; Score 577; DB 2; Length 105;
 Best Local Similarity 100.0%; Pred. No. 7e-62;
 Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
 |||||
 Db 2 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
 |||||

QY 61 SEFYLSDCNVTSPCKYKLLKSKSTNFCVTCENQAPVHFVGVGHC 104
 |||||

Db 62 SEFYLSDCNVTSPCKYKLLKSKSTNFCVTCENQAPVHFVGVGHC 105
 |||||

RESULT 3

AA28865

ID AAY28865 standard; protein; 104 AA.

XX AC AAY28865;

XX DT 25-JAN-2000 (first entry)

XX DE Rana pipiens liver ribonuclease (RaPLR1).

XX KW Rana pipiens liver ribonuclease; RaPLR1; covalently bound; LL2 antibody;
 KW ligand binding moiety; CD22; cancerous B cell; Kaposi's Sarcoma; frog;
 KW human chorionic gonadotrophin; hCG; recombinant ribonuclease; RNase;
 KW signal peptide; cytotoxic fusion protein; cancer; autoimmune disease.

XX OS Rana pipiens.

XX PN WO950398-A2.

XX PD 07-OCT-1999.

XX PF 26-MAR-1999; 99WO-US006641.

XX PR 27-MAR-1998; 98US-0079751P.

XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX PI Rybak SM, Newton DL;

XX DR WPI; 1999-610847/52.

XX DR N-PSDB; AA208124.

XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
 XX treating cancers, viral infections or autoimmune diseases.

XX PS Claim 1; Page 55; 71pp; English.

XX CC The present sequence is Rana pipiens liver ribonuclease (RaPLR1) protein.
 CC Carboxy terminal end of RaPLR1 has a covalently bound ligand binding
 CC moiety, which can be a LL2 antibody directed against CD22 on cancerous B
 CC cells or human chorionic gonadotrophin (hCG) effective against Kaposi's
 CC Sarcoma cells. Recombinant ribonucleases can be expressed in bacteria
 CC without an N-terminal methionine due to the presence of a signal peptide
 CC that is cleaved by bacteria. The soluble expression of ribonuclease
 CC allows the proteins to be fused in-frame with ligand binding moieties to
 CC form cytotoxic fusion proteins. They can be used for treatment of cancer
 CC and autoimmune diseases

XX SQ Sequence 104 AA;

Query Match 99.3%; Score 573; DB 2; Length 104;
 Best Local Similarity 100.0%; Pred. No. 2.1e-61;

Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYSPRPVKATCKGIIASKNVLTTS 61
DB 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYSPRPVKATCKGIIASKNVLTTS 61

QY 62 EFYLSDCNVTSPCKYKLKKSNTFCVTCENQAPVHFVGVGHC 104
DB 62 EFYLSDCNVTSPCKYKLKKSNTFCVTCENQAPVHFVGVGHC 104

RESULT 4
AAY28867
ID AAY28867 standard; protein; 105 AA.
XX AC AAY28867;
XX DT 25-JAN-2000 (first entry)
XX DE Recombinant Met (-1) RaPLR1.
XX KW Recombinant Met (-1) Rana pipiens ribonuclease; RaPLR1; CD22; RNase;
XX KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
XX KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
XX KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
XX KW autoimmune disease.
XX OS Rana pipiens.
XX OS Synthetic.
XX FH Key Location/Qualifiers
XX FT Misc-difference 1 /note= "Met not found in wild type RaPLR1"
XX PN WO9950398-A2.
XX PD 07-OCT-1999.
XX PF 26-MAR-1999; 99WO-US006641.
XX PR 27-MAR-1998; 98US-0079751P.
XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL;
XX WPI; 1999-610847/52.
XX DR N-PSDB; AAZ08126.
XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
XX PT treating cancers, viral infections or autoimmune diseases.
XX PS Claim 34; Page 57; 71pp; English.
XX CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1).
XX CC protein with Met at position 1. Carboxy terminal end of recombinant
XX CC RaPLR1 has a covalently bound ligand binding moiety, which can be a LL2
XX CC antibody directed against CD22 on cancerous B cells or human chorionic
XX CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
XX CC ribonucleases can be expressed in bacteria without an N-terminal
XX CC methionine due to the presence of a signal peptide that is cleaved by
XX CC bacteria. The soluble expression of ribonuclease allows the proteins to
XX CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
XX CC proteins. They can be used for treatment of cancer and autoimmune
XX CC diseases
XX SQ Sequence 105 AA;
Query Match 99.3%; Score 573; DB 2; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.2e-61;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYSPRPVKATCKGIIASKNVLTTS 61

DB 3 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFYSPRPVKATCKGIIASKNVLTTS 62

QY 62 EFYLSDCNVTSPCKYKLKKSNTFCVTCENQAPVHFVGVGHC 104
DB 63 EFYLSDCNVTSPCKYKLKKSNTFCVTCENQAPVHFVGVGHC 105

RESULT 5
AAY28879
ID AAY28879 standard; protein; 127 AA.
XX AC AAY28879;
XX DT 25-JAN-2000 (first entry)
XX DE Rana pipiens Clone 5alb ribonuclease.
XX KW Rana pipiens ribonuclease Clone 5alb; RaPLR1; covalently bound; RNase;
XX KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; onconase;
XX KW Kaposi's Sarcoma; human chorionic gonadotrophin; hCG; cancer;
XX KW recombinant ribonuclease; frog; signal peptide; cytotoxic fusion protein;
XX KW autoimmune disease.
XX OS Rana pipiens.
XX OS Key Location/Qualifiers
XX FH Peptide 1..23
XX FT /label= "Signal peptide"
XX FT /note= "Putative"
XX FT 24..127
XX FT Protein /label= Rana_pipiens_Clone_5alb_ribonuclease
XX PN WO9950398-A2.
XX PD 07-OCT-1999.
XX PF 26-MAR-1999; 99WO-US006641.
XX PR 27-MAR-1998; 98US-0079751P.
XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL;
XX WPI; 1999-610847/52.
XX DR N-PSDB; AAZ08136.
XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
XX PT treating cancers, viral infections or autoimmune diseases.
XX PS Disclosure; Page 69; 71pp; English.
XX CC The present sequence is a Rana pipiens Clone 5alb ribonuclease (RaPLR1).
XX CC It is encoded by Clone 5alb cDNA obtained from Rana pipiens liver mRNA
XX CC library. It exhibits differences with Onconase (RNase) at amino acid
XX CC residues 11, 20, 85 and 103. Carboxy terminal end of RaPLR1 has a
XX CC covalently bound ligand binding moiety, which can be a LL2 antibody
XX CC directed against CD22 on cancerous B cells or human chorionic
XX CC gonadotrophin (hCG) effective against Kaposi's Sarcoma cells. Recombinant
XX CC ribonucleases can be expressed in bacteria without an N-terminal
XX CC methionine due to the presence of a signal peptide that is cleaved by
XX CC bacteria. The soluble expression of ribonuclease allows the proteins to
XX CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
XX CC proteins. They can be used for treatment of cancer and autoimmune
XX CC diseases
XX SQ Sequence 127 AA;
Query Match 99.3%; Score 573; DB 2; Length 127;
Best Local Similarity 100.0%; Pred. No. 2.7e-61;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 3 DMLTFQKKHLTNRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 62
 QY 62 EFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVC 104
 Db 63 EFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVC 105

RESULT 8
 AAW06544
 ID AAW06544 standard; protein; 104 AA.
 XX
 AC AAW06544;
 XX
 DT 22-AUG-1997 (first entry)
 XX
 DE Antitumour protein from Rana pipiens oocytes.
 XX
 KW Tumour; chemotherapy; radiotherapy; frog.
 XX
 OS Rana pipiens.
 XX
 PN WO9639428-A1.
 XX
 PD 12-DEC-1996.
 XX
 PF 03-JUN-1996; 96WO-US008304.
 XX
 PR 06-JUN-1995; 95US-00467955.
 XX
 PA (ALFA-) ALFACELL CORP.
 XX
 PI Ardelt WJ;
 XX
 DR WPI; 1997-043063/04.
 XX
 PT Antitumour proteins from Rana pipiens oocyte(s) - have fewer
 PT disadvantages than chemotherapy, surgery and radiotherapy.
 XX
 PS Claim 8; Page 28; 45pp; English.
 XX

The present sequence is a specifically claimed example of an antitumour protein from the generic protein in AAW18224, with the molecular weight 12000. This is one of two preferred proteins (the other in AAW06543) that have been isolated from Rana pipiens oocytes. Both proteins have a blocked amino terminal group and are essentially free of carbohydrates. The proteins are used to treat tumours. Use of the peptides has fewer disadvantages than chemotherapy, radiotherapy and surgery in the treatment of tumours

XX
 SQ Sequence 104 AA;
 Query Match 96.4%; Score 556; DB 2; Length 104;
 Best Local Similarity 97.1%; Pred. No. 2.5e-59;
 Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
 Db 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61

QY 62 EFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVC 104
 Db 62 EFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVC 104

RESULT 9
 AAW35118
 ID AAW35118 standard; protein; 112 AA.
 XX
 AC AAW35118;
 XX
 DT 20-APR-1998 (first entry)
 XX
 DE R. pipiens recombinant RNase protein NLSmetSerrOnc.

XX
 KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 OS Rana pipiens.
 XX
 PN WO9731116-A2.
 XX
 PD 28-AUG-1997.
 XX
 PF 19-FEB-1997; 97WO-US002588.
 XX
 PR 21-FEB-1996; 96US-0011800P.
 XX
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Rybak SM, Newton DL, Boque L, Wlodawer A;
 XX
 DR WPI; 1997-435168/40.
 DR N-ESDB; AAT94955.
 XX
 PT Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.
 XX
 PS Claim 18; Page 63; 90pp; English.
 XX

AAW35115 to AAW35123 encode recombinant proteins (rOnc) which are modifications of the RNase Onconase (RTW) (nOnc). Such novel ribonuclease molecules are highly cytotoxic and can be used alone or to form chemical conjugates or to target recombinant immunofusions. They are used particularly for decreasing tumour cell growth. They can also be used for cell separation in vitro by selectively killing unwanted types of cells, e.g. in bone marrow prior to transplantation into a patient undergoing marrow ablation by radiation, or for killing leukaemia cells or T-cells that would cause graft versus host disease. The toxins can also be used to selectively kill unwanted cells in culture. The new ribonucleases have increased cytotoxic activity compared to nOnc and also lower immunogenicity in humans

XX
 SQ Sequence 112 AA;
 Query Match 96.2%; Score 555; DB 2; Length 112;
 Best Local Similarity 96.2%; Pred. No. 3.6e-59;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 60
 Db 9 SDWLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 68

QY 61 SEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVC 104
 Db 69 SEFYLSDCNVTSRPCKYKLGKSTNTFCVTCEQAPVHFVGVC 112

RESULT 10
 AAW35134
 ID AAW35134 standard; protein; 251 AA.
 XX
 AC AAW35134;
 XX
 DT 20-APR-1998 (first entry)
 XX
 DE R. pipiens recombinant RNase rOnc fusion protein 10.
 XX
 KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.
 OS Rana pipiens.
 OS Synthetic.
 XX
 PN WO9731116-A2.
 XX
 PD 28-AUG-1997.

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XX PF 19-FEB-1997; 97WO-US002588.
XX N-PSDB; AAT94973.
XX 21-FEB-1996; 96US-0011800P.
XX (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX Rybak SM, Newton DL, Boque L, Wlodawer A;
XX WPI; 1997-435168/40.
XX N-PSDB; AAT94972.
XX Ribonuclease molecules based on native Oncinase - used for killing cells,
XX particularly tumour cells.
XX Disclosure; Page 76; 90pp; English.
XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
XX (rOnc) which are modifications of the RNase Oncinase (RTM) (nOnc). Such
XX novel ribonuclease molecules are highly cytotoxic and can be used alone
XX or to form chemical conjugates or to target recombinant immunofusions.
XX They are used particularly for decreasing tumour cell growth. They can
XX also be used for cell separation in vitro by selectively killing unwanted
XX types of cells, e.g. in bone marrow prior to transplantation into a
XX patient undergoing marrow ablation by radiation, or for killing leukaemia
XX cells or T-cells that would cause graft versus host disease. The toxins
XX can also be used to selectively kill unwanted cells in culture. The new
XX ribonucleases have increased cytotoxic activity compared to nOnc and also
XX lower immunogenicity in humans
XX Sequence 251 AA;
XX Query Match 96.2%; Score 555; DB 2; Length 251;
XX Best Local Similarity 96.2%; Pred. No. 1e-58;
XX Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
XX
XX 1 SDWLTFOKKHLNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
XX 148 SDWLTFOKKHLNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 207
XX
XX 61 SEFYLSDCNVTSPCKYKLKSTNTPCVTCENQAPVHFVGVGHC 104
XX 208 SEFYLSDCNVTSPCKYKLKSTNTPCVTCENQAPVHFVGVGSC 251
XX
XX RESULT 11
XX AAW35135
XX ID AAW35135 standard; protein; 254 AA.
XX AC AAW35135;
XX 20-APR-1998 (first entry)
XX R. pipiens recombinant RNase rOnc fusion protein 11.
XX RNase A; ribonuclease; cytotoxic; oncinase; nOnc; immunofusion;
XX tumour cell growth; frog.
XX Rana pipiens.
XX Synthetic.
XX WO9731116-A2.
XX 28-AUG-1997.
XX 19-FEB-1997; 97WO-US002588.
XX 21-FEB-1996; 96US-0011800P.
XX (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX Rybak SM, Newton DL, Boque L, Wlodawer A;
XX

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DR WPI; 1997-435168/40.
DR N-PSDB; AAT94973.
XX Ribonuclease molecules based on native Oncinase - used for killing cells,
XX particularly tumour cells.
XX Disclosure; Page 77; 90pp; English.
XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
XX (rOnc) which are modifications of the RNase Oncinase (RTM) (nOnc). Such
XX novel ribonuclease molecules are highly cytotoxic and can be used alone
XX or to form chemical conjugates or to target recombinant immunofusions.
XX They are used particularly for decreasing tumour cell growth. They can
XX also be used for cell separation in vitro by selectively killing unwanted
XX types of cells, e.g. in bone marrow prior to transplantation into a
XX patient undergoing marrow ablation by radiation, or for killing leukaemia
XX cells or T-cells that would cause graft versus host disease. The toxins
XX can also be used to selectively kill unwanted cells in culture. The new
XX ribonucleases have increased cytotoxic activity compared to nOnc and also
XX lower immunogenicity in humans
XX Sequence 254 AA;
XX Query Match 96.2%; Score 555; DB 2; Length 254;
XX Best Local Similarity 96.2%; Pred. No. 1e-58;
XX Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
XX
XX 1 SDWLTFOKKHLNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
XX 2 SDWLTFOKKHLNTRDVCNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61
XX
XX 61 SEFYLSDCNVTSPCKYKLKSTNTPCVTCENQAPVHFVGVGHC 104
XX 62 SEFYLSDCNVTSPCKYKLKSTNTPCVTCENQAPVHFVGVGSC 105
XX
XX RESULT 12
XX AAW35133
XX ID AAW35133 standard; protein; 355 AA.
XX AC AAW35133;
XX 20-APR-1998 (first entry)
XX R. pipiens recombinant RNase rOnc fusion protein 9.
XX RNase A; ribonuclease; cytotoxic; oncinase; nOnc; immunofusion;
XX tumour cell growth; frog.
XX Rana pipiens.
XX Synthetic.
XX WO9731116-A2.
XX 28-AUG-1997.
XX 19-FEB-1997; 97WO-US002588.
XX 21-FEB-1996; 96US-0011800P.
XX (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX Rybak SM, Newton DL, Boque L, Wlodawer A;
XX
XX WPI; 1997-435168/40.
XX N-PSDB; AAT94971.
XX Ribonuclease molecules based on native Oncinase - used for killing cells,
XX particularly tumour cells.
XX Disclosure; Page 75; 90pp; English.
XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins

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CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans

XX Sequence 355 AA;

Query Match 96.2%; Score 555; DB 2; Length 355;
 Best Local Similarity 96.2%; Pred. No. 1.6e-58;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLTNTRDVCNIMSTNLFHCKDKNTFYISRPVPVKAICKGIIASKNVLT 60
 DB 2 SDWLTFQKKHLTNTRDVCNIMSTNLFHCKDKNTFYISRPVPVKAICKGIIASKNVLT 61
 QY 61 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104
 DB 62 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTENQAPVHFVGVGSC 105

RESULT 13
 AAW35129
 ID AAW35129 standard; protein; 355 AA.

XX AAW35129;

XX 20-APR-1998 (first entry)

XX R. pipiens recombinant RNase rOnc fusion protein 5.

XX RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.

XX Rana pipiens.

OS Synthetic.

XX WO9731116-A2.

XX 28-AUG-1997.

XX 19-FEB-1997; 97WO-US002588.

XX 21-FEB-1996; 96US-0011800P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX Rybak SM, Newton DL, Boque L, Wlodawer A;

XX WPI; 1997-435168/40.

DR N-PSDB; AAT94967.

XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.

PS Disclosure; Page 71; 90pp; English.

XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new

CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans

XX Sequence 355 AA;

Query Match 96.2%; Score 555; DB 2; Length 355;
 Best Local Similarity 96.2%; Pred. No. 1.6e-58;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLTNTRDVCNIMSTNLFHCKDKNTFYISRPVPVKAICKGIIASKNVLT 60
 DB 252 SDWLTFQKKHLTNTRDVCNIMSTNLFHCKDKNTFYISRPVPVKAICKGIIASKNVLT 311
 QY 61 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTENQAPVHFVGVGHC 104
 DB 312 SEFYLSDCNVTSRPCKYKLLKXSTNTFCVTENQAPVHFVGVGSC 355

RESULT 14
 AAW35132
 ID AAW35132 standard; protein; 366 AA.

XX AAW35132;

XX 20-APR-1998 (first entry)

XX R. pipiens recombinant RNase rOnc fusion protein 8.

XX RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
 KW tumour cell growth; frog.

OS Rana pipiens.

OS Synthetic.

XX WO9731116-A2.

XX 28-AUG-1997.

XX 19-FEB-1997; 97WO-US002588.

XX 21-FEB-1996; 96US-0011800P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX Rybak SM, Newton DL, Boque L, Wlodawer A;

XX WPI; 1997-435168/40.

DR N-PSDB; AAT94970.

XX Ribonuclease molecules based on native Onconase - used for killing cells,
 PT particularly tumour cells.

PS Disclosure; Page 74; 90pp; English.

XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
 CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
 CC novel ribonuclease molecules are highly cytotoxic and can be used alone
 CC or to form chemical conjugates or to target recombinant immunofusions.
 CC They are used particularly for decreasing tumour cell growth. They can
 CC also be used for cell separation in vitro by selectively killing unwanted
 CC types of cells, e.g. in bone marrow prior to transplantation into a
 CC patient undergoing marrow ablation by radiation, or for killing leukaemia
 CC cells or T-cells that would cause graft versus host disease. The toxins
 CC can also be used to selectively kill unwanted cells in culture. The new
 CC ribonucleases have increased cytotoxic activity compared to nOnc and also
 CC lower immunogenicity in humans

XX Sequence 366 AA;

Query Match 96.2%; Score 555; DB 2; Length 366;
 Best Local Similarity 96.2%; Pred. No. 1.6e-58;
 Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Search completed: May 7, 2004, 21:38:27
Job time : 44.363 secs

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Db 263 SDWLTFQKKHLTNRDVCDDNIMSTNLFPHCKDKNTFYISRPFPVKAICKGIIASKNVLTT 322
Qy 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104
Db 323 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 366

RESULT 15

AAR12344
ID AAR12344 standard; protein; 104 AA.

XX AC AAR12344;

XX DT 08-AUG-1991 (first entry)

XX DE Protein with activity against cancer cells.

XX KW Frog eggs; Tamoxifen; Stelazine; cancer.

XX OS Rana pipiens.

XX PN WO9107435-A.

XX PD 30-MAY-1991.

XX PF 13-NOV-1989; 89US-00436141.

XX PR 13-NOV-1989; 89US-00436141.

XX PR 18-MAY-1990; 90US-00526314.

XX PA (ALFA-) ALFACELL CORP.

XX PI Ardelt WJ, Mikulski SM;

XX DR WPI; 1991-178059/24.

PT New protein from fertilised eggs of Rana pipiens - active against cancer
cells, esp. in combination with Tamoxifen or Stelazine (trifluoro-per-
azine).

PS Claim 7; Fig 2; 33pp; English.

XX The protein is derived from fertilised frog eggs. It has an iso-
electric point of 9.5 - 10.5, a blocked N-terminal gp. and is free of
carbohydrates. It is active against certain cancer cells. The combination
of the protein and (2-1-p-dimethylaminoethoxyphenyl)-1, 2-diphenyl-1-
butene) citrate salt (Tamoxifen) is much more bio- active than the
separate entities against human pancreatic ASPC-1 adenocarcinoma, and the
combination of protein and (10-[3-(4-methyl piperazin-1-yl)-propyl]-2-
trifluoromethylphenothiazine (Stelazine) is much more reactive than the
separate entities against human lung A-549 carcinoma. Activity has also
been shown against human sub- maxillary epidermoid carcinoma A-253
cells, human ovarian adeno- carcinoma NIH-OVCAR-3 cells, human leukaemic
HL-60 cells, human COLO 320 DM cells, human LOX melanoma and human lung
squamous car- cinoma HT-520 cells

SQ Sequence 104 AA;

Query Match 95.5%; Score 551; DB 2; Length 104;
Best Local Similarity 96.1%; Pred. No. 9.9e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

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Db 2 DWLTFQKKHLTNRDVCDDNIMSTNLFPHCKDKNTFYISRPFPVKAICKGIIASKNVLTT 61

Qy 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104

Db 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVC 104

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:28:45 ; Search time 12.0636 Seconds
(without alignments)

445.066 Million cell updates/sec

Title: US-09-961-400-11

Perfect score: 577

Sequence: 1 SDMLTFQKKHLNTRDVCN.....TFCVTCENQAPVHFVGVC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:*

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- 2: /cgn2_6/ptodata/2/iaa/5B COMB.pap:*
- 3: /cgn2_6/ptodata/2/iaa/6A COMB.pap:*
- 4: /cgn2_6/ptodata/2/iaa/6B COMB.pap:*
- 5: /cgn2_6/ptodata/2/iaa/PTCUT COMB.pap:*
- 6: /cgn2_6/ptodata/2/iaa/backfiles1.pap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	556	96.4	104	1	US-08-467-955-2
2	555	96.2	112	3	US-08-875-811-32
3	555	96.2	251	3	US-08-875-811-59
4	555	96.2	254	3	US-08-875-811-61
5	555	96.2	355	3	US-08-875-811-49
6	555	96.2	355	3	US-08-875-811-57
7	555	96.2	355	3	US-08-875-811-64
8	555	96.2	366	3	US-08-875-811-55
9	551	95.5	104	1	US-08-283-971-1
10	551	95.5	104	1	US-07-921-619-1
11	551	95.5	104	1	US-08-467-955-1
12	551	95.5	104	2	US-08-891-848-13
13	551	95.5	104	3	US-08-875-811-1
14	551	95.5	104	3	US-09-394-268-1
15	551	95.5	104	4	US-09-071-672-1
16	551	95.5	104	4	US-09-687-748-1
17	551	95.5	104	4	US-08-626-288-1
18	551	95.5	104	4	US-09-095-429-1
19	551	95.5	104	4	US-09-986-119-1
20	551	95.5	104	3	US-08-875-811-39
21	551	95.5	106	3	US-08-875-811-28
22	551	95.5	107	3	US-08-875-811-30
23	551	95.5	129	3	US-08-875-811-63
24	551	95.5	355	3	US-08-875-811-41
25	551	95.5	358	3	US-08-875-811-51
26	551	95.5	379	3	US-08-875-811-43
27	550	95.3	105	3	US-08-875-811-26

28 548 95.0 104 4 US-08-626-288-2 Sequence 2, Appli
29 548 95.0 104 4 US-09-095-429-2 Sequence 2, Appli
30 546 94.6 105 3 US-08-875-811-24 Sequence 24, Appl
31 546 94.6 358 3 US-08-875-811-45 Sequence 45, Appl
32 546 94.6 365 3 US-08-875-811-53 Sequence 53, Appl
33 543 94.1 104 3 US-09-394-268-2 Sequence 2, Appli
34 543 94.1 104 4 US-09-687-748-2 Sequence 2, Appli
35 531 92.0 107 3 US-08-875-811-20 Sequence 20, Appl
36 494 85.6 360 3 US-08-875-811-47 Sequence 47, Appl
37 484.5 84.0 111 3 US-08-875-811-22 Sequence 22, Appl
38 445 77.1 83 3 US-08-875-811-2 Sequence 2, Appli
39 445 77.1 83 4 US-03-071-672-3 Sequence 3, Appli
40 445 77.1 83 4 US-09-986-119-3 Sequence 3, Appli
41 287 49.7 111 2 US-08-891-848-12 Sequence 12, Appl
42 287 49.7 111 3 US-08-875-811-8 Sequence 8, Appli
43 216.5 37.5 114 3 US-09-223-118-4 Sequence 4, Appli
44 204.5 35.4 114 3 US-09-223-118-2 Sequence 2, Appli
45 203.5 35.3 114 3 US-09-223-118-1 Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-08-467-955-2
; Sequence 2, Application US/08467955
; Patent No. 5728805
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; TITLE OF INVENTION: PHARMACEUTICALS AND METHOD FOR MAKING THEM
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.A.
; STREET: P.O. Box E
; CITY: Short Hills
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07078-0383
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/467,955
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/814,332
; FILING DATE: 03-FEB-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/283,970
; FILING DATE: 01-AUG-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5007 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 201-912-9066
; TELEFAX: 201-912-0442
; TELEX: No. 5728805 Applicable
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear

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	QY	61	SEFYLSDCNVTSRCPCKYKLKSKSTNTFCVTCEQAHPVHFVGCHC	104	
	Db	69	SEFYLSDCNVTSRCPCKYKLKSKSTNKFCVTCEQAHPVHFVGSC	112	
	 RESULT 3 US-08-875-811-59 ; Sequence 59, Application US/08875811 ; Patent No. 6045793 ; GENERAL INFORMATION: ; APPLICANT: Rybak, Susanna M. ; APPLICANT: Newton, Dianne L. ; APPLICANT: Boque, Lluis ; APPLICANT: Wlodawer, Alexander ; TITLE OF INVENTION: Recombinant Ribonuclease Proteins ; NUMBER OF SEQUENCES: 64 ; CORRESPONDENCE ADDRESS: ; ADDRESSEE: Townsend and Townsend and Crew LLP ; STREET: Two Embarcadero Center, Eighth Floor ; CITY: San Francisco ; STATE: California ; COUNTRY: USA ; ZIP: 94111-3834 ; COMPUTER READABLE FORM: ; MEDIUM TYPE: Floppy disk ; COMPUTER: IBM PC compatible ; OPERATING SYSTEM: PC-DOS/MS-DOS ; SOFTWARE: PatentIn Release #1.0, Version #1.30 ; CURRENT APPLICATION DATA: ; APPLICATION NUMBER: US/08/875,811 ; FILING DATE: 19-FEB-1998 ; CLASSIFICATION: 435 ; PRIOR APPLICATION DATA: ; APPLICATION NUMBER: WO PCT/US97/02588 ; FILING DATE: 19-FEB-1997 ; PRIOR APPLICATION DATA: ; APPLICATION NUMBER: US 60/011,800 ; FILING DATE: 21-FEB-1996 ; ATTORNEY/AGENT INFORMATION: ; NAME: Paris, Susan K. ; REGISTRATION NUMBER: 41,739 ; REFERENCE/DOCKET NUMBER: 015280-244100US ; TELECOMMUNICATION INFORMATION: ; TELEPHONE: (415) 576-0200 ; TELEFAX: (415) 576-0300 ; INFORMATION FOR SEQ ID NO: 59: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 251 amino acids ; TYPE: amino acid ; TOPOLOGY: linear ; MOLECULE TYPE: protein ; US-08-875-811-59 Query Match 96.2%; Score 555; DB 3; Length 251; Best Local Similarity 96.2%; Pred.No.1.2e-59; Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;				
	QY	1	SDWLTFOKKHLLTNRDVCNNIMSTNLFHCXKDKNTFYSRPEPVKAICKGIASKNVLT	60	
	Db	148	SDWLTFOKKHLLTNRDVCNNIMSTNLFHCXKDKNTFYSRPEPVKAICKGIASKNVLT	207	
	QY	61	SEFYLSDCNVTSRCPCKYKLKSKSTNTFCVTCEQAHPVHFVGCHC	104	
	Db	208	SEFYLSDCNVTSRCPCKYKLKSKSTNKFCVTCEQAHPVHFVGSC	251	
	 RESULT 4 US-08-875-811-61				


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; Sequence 61, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 61:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 254 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-61

Query Match          96.2%; Score 555; DB 3; Length 254;
Best Local Similarity 96.2%; Pred. No. 1.2e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 2 SDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61

QY 61 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGHC 104
Db 62 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGSC 105

RESULT 5
US-08-875-811-49
; Sequence 49, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 61:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 254 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-61

Query Match          96.2%; Score 555; DB 3; Length 254;
Best Local Similarity 96.2%; Pred. No. 1.2e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 2 SDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 61

QY 61 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGHC 104
Db 62 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGSC 105

RESULT 5
US-08-875-811-49
; Sequence 49, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 61:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 254 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-61

Query Match          96.2%; Score 555; DB 3; Length 355;
Best Local Similarity 96.2%; Pred. No. 1.8e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 252 SDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 311

QY 61 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGHC 104
Db 312 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGSC 355

RESULT 6
US-08-875-811-57
; Sequence 57, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
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; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 49:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-49

Query Match          96.2%; Score 555; DB 3; Length 355;
Best Local Similarity 96.2%; Pred. No. 1.8e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
Db 252 SDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 311

QY 61 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGHC 104
Db 312 SEFYSLDCNVTSPCKYKLLKSTNFCVTCEQAQPVHFVGVGSC 355

RESULT 6
US-08-875-811-57
; Sequence 57, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
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; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0300
; TELEFAX: (415) 576-0200
; INFORMATION FOR SEQ ID NO: 57:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-875-811-57

Query Match          96.2%; Score 555; DB 3; Length 355;
Best Local Similarity 96.2%; Pred. No. 1.8e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIASKNVLTT 60
Db 2 SDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIASKNVLTT 61
QY 61 SEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 62 SEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGSC 105

RESULT 7
US-08-875-811-64
; Sequence 64, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:

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; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 64:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 355 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 1..355
; OTHER INFORMATION: /note= "EGFB[Met-(-1)]SerrOnc"
; US-08-875-811-64

Query Match          96.2%; Score 555; DB 3; Length 355;
Best Local Similarity 96.2%; Pred. No. 1.8e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIASKNVLTT 60
Db 252 SDWLTFQKKHITNTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIASKNVLTT 311
QY 61 SEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGHC 104
Db 312 SEFYSDCNVTSRCPCKYKLLKSTNFCVTCENQAPVHFVGVGSC 355

RESULT 8
US-08-875-811-55
; Sequence 55, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Lluís
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 55:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 366 amino acids
; TYPE: amino acid
; TOPOLOGY: linear

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/ MOLECULE TYPE: protein
US-08-875-811-55

Query Match 96.2%; Score 555; DB 3; Length 366;
Best Local Similarity 96.2%; Pred. No. 1.9e-59;
Matches 100; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 SDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
DB 263 SDWLTFOKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 322

QY 61 SEFYLSDCNVTSRPCKYKXKSTNTFCVTENQAPVHFVGVGHC 104
DB 323 SEFYLSDCNVTSRPCKYKXKSTNTFCVTENQAPVHFVGVGSC 366

RESULT 9

US-08-283-971-1
; Sequence 1, Application US/08283971
; Patent No. 5529775
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; APPLICANT: Mikulski, Stanislaw M.
; TITLE OF INVENTION: PHARMACEUTICAL FOR TREATING TUMORS IN HUMANS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.C.
; STREET: P.O. Box 020083, General Post Office
; CITY: Brooklyn
; STATE: New York
; COUNTRY: USA
; ZIP: 11202-0002

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/283,971
; FILING DATE:

; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/921,180
; FILING DATE: 30-JUL-1992
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; ATTORNEY/AGENT INFORMATION:

; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5006 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 718-625-0399
; TELEFAX: 718-625-0399
; TELEX: No. 5529775 Applicable

; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: N

; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Embryo

US-08-283-971-1

Query Match 95.5%; Score 551; DB 1; Length 104;

Best Local Similarity 96.1%; Pred. No. 1.1e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
DB 2 DMLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61

QY 62 EFYLSDCNVTSRPCKYKXKSTNTFCVTENQAPVHFVGVGHC 104
DB 62 EFYLSDCNVTSRPCKYKXKSTNTFCVTENQAPVHFVGVGSC 104

RESULT 10

US-07-921-619-1
; Sequence 1, Application US/07921619
; Patent No. 5595734
; GENERAL INFORMATION:
; APPLICANT: Ardelt Ph.D, Wojciech J.
; APPLICANT: Mikulski, Stanislaw M.
; TITLE OF INVENTION: PHARMACEUTICAL FOR TREATING TUMORS IN HUMANS
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Mark H. Jay, P.C.
; STREET: P.O. Box 020083, General Post Office
; CITY: Brooklyn
; STATE: New York
; COUNTRY: USA
; ZIP: 11202-0002

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/921,619
; FILING DATE: 19920728
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/178,118
; FILING DATE: 06-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/436,141
; FILING DATE: 13-NOV-1989
; ATTORNEY/AGENT INFORMATION:

; NAME: Jay, Mark H.
; REGISTRATION NUMBER: 27507
; REFERENCE/DOCKET NUMBER: 5005 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 718-625-0399
; TELEFAX: 718-625-0399
; TELEX: No. 5595734 Applicable

; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: AMINO ACID
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: N

; ANTI-SENSE: N
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: Rana pipiens
; DEVELOPMENTAL STAGE: Embryo

US-07-921-619-1

Query Match 95.5%; Score 551; DB 1; Length 104;

Best Local Similarity 96.1%; Pred. No. 1.1e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61
DB 2 DMLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 61

QY 62 EFYLSDCNVTSRPCYKYLKKSNTFCVTCENQAPVHFVGVGHC 104
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 Db 62 EFYLSDCNVTSRPCYKYLKKSNTKFCVTCENQAPVHFVGVGSC 104
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RESULT 11
 US-08-467-955-1
 ; Sequence 1, Application US/08467955
 ; Patent No. 5728805
 ; GENERAL INFORMATION:
 ; APPLICANT: Ardelt Ph.D. Wojciech J.
 ; TITLE OF INVENTION: PHARMACEUTICALS AND METHOD FOR MAKING THEM
 ; NUMBER OF SEQUENCES: 2
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Mark H. Jay, F.A.
 ; STREET: P.O. Box E
 ; CITY: Short Hills
 ; STATE: New Jersey
 ; COUNTRY: USA
 ; ZIP: 07078-0383
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.24
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US 07/467,955
 ; FILING DATE:
 ; CLASSIFICATION: 435
 ; PRIORITY APPLICATION DATA:
 ; APPLICATION NUMBER: US 07/178,118
 ; FILING DATE: 06-APR-1988
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 07/436,141
 ; FILING DATE: 13-NOV-1989
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 07/814,332
 ; FILING DATE: 03-FEB-1992
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/283,970
 ; FILING DATE: 01-AUG-1994
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Jay, Mark H.
 ; REGISTRATION NUMBER: 27507
 ; REFERENCE/DOCKET NUMBER: 5007 US
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 201-912-9066
 ; TELEFAX: 201-912-0442
 ; TELEX: No. 5728805 Applicable
 ; INFORMATION FOR SEQ ID NO: 1:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 104 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; HYPOTHETICAL: N
 ; ANTI-SENSE: N
 ; FRAGMENT TYPE: N-terminal
 ; ORIGINAL SOURCE:
 ; ORGANISM: Rana pipiens
 ; DEVELOPMENTAL STAGE: Oocyte
 US-08-467-955-1

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QY 62 EFYLSDCNVTSPCKYKUKKSTNTFCVTCENQAPVHFVGVGHC 104
DB 62 EFYLSDCNVTSPCKYKUKKSTNTFCVTCENQAPVHFVGVGSC 104

RESULT 12
US-08-891-848-13
; Sequence 13, Application US/08891848
; Patent No. 5955073
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Youle, Richard J.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Nicholls, Peter J.
; TITLE OF INVENTION: Selective RNase Cytotoxic Reagents
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/891,848
; FILING DATE: No. 5955073 yet assigned
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/125,462
; FILING DATE: 22-SEP-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/014,082
; FILING DATE: 04-FEB-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/779,195
; FILING DATE: 22-OCT-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/510,696
; FILING DATE: 20-APR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Weber, Ellen Lauver
; REGISTRATION NUMBER: 32,762
; REFERENCE/DOCKET NUMBER: 015280-110310US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 1..104
; OTHER INFORMATION: /label= Onc
; OTHER INFORMATION: /note= "Oncinase from Rana pipiens"
US-08-891-848-13

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QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 EFYLSDCNVTSRPCKYKLLKSTNKFCVTCENQAPVHFVGVGSC 104

RESULT 13
US-08-875-811-1
; Sequence 1, Application US/08875811
; Patent No. 6045793
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Boque, Iluis
; APPLICANT: Wlodawer, Alexander
; TITLE OF INVENTION: Recombinant Ribonuclease Proteins
; NUMBER OF SEQUENCES: 64
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/875,811
; FILING DATE: 19-FEB-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US97/02588
; FILING DATE: 19-FEB-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/011,800
; FILING DATE: 21-FEB-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Faris, Susan K.
; REGISTRATION NUMBER: 41,739
; REFERENCE/DOCKET NUMBER: 015280-244100US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 104 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 1..104
; OTHER INFORMATION: /label= nOnc
; OTHER INFORMATION: /note= "native ONCONASE (Registered
; OTHER INFORMATION: Trademark) from Rana pipiens"
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 1
; OTHER INFORMATION: /note= "Xaa = pyroglutamic acid"
US-08-875-811-1

Query Match 95.5%; Score 551; DB 3; Length 104;
Best Local Similarity 96.1%; Pred. No. 1.1e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTTS 61
Db 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTTS 61
QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

Db 62 EFYLSDCNVTSRPCKYKLLKSTNKFCVTCENQAPVHFVGVGSC 104

RESULT 14
US-09-394-268-1
; Sequence 1, Application US/09394268
; Patent No. 6175003
; GENERAL INFORMATION:
; APPLICANT: Saxena, Shailendra K
; TITLE OF INVENTION: NUCLEIC ACIDS ENCODING RIBONUCLEASES AND METHODS OF
; MAKING THEM
; FILE REFERENCE: 5013
; CURRENT APPLICATION NUMBER: US/09/394,268
; CURRENT FILING DATE: 1999-09-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-394-268-1

Query Match 95.5%; Score 551; DB 3; Length 104;
Best Local Similarity 96.1%; Pred. No. 1.1e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTTS 61
Db 2 DMLTFQKKHLTNRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTTS 61
QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 EFYLSDCNVTSRPCKYKLLKSTNKFCVTCENQAPVHFVGVGSC 104

RESULT 15
US-09-071-672-1
; Sequence 1, Application US/09071672
; Patent No. 6395276
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: Goldenberg, David M.
; TITLE OF INVENTION: Immunotoxins Directed Against Malignant
; TITLES OF INVENTION: Cells
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend and Crew LLP
; STREET: Two Embarcadero Center, Eighth Floor
; CITY: San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94111-3834
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/071,672
; FILING DATE: 01-MAY-1998
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/046,895
; FILING DATE: 02-MAY-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Weber, Ellen Lauver
; REGISTRATION NUMBER: 32,762
; REFERENCE/DOCKET NUMBER: 015280-32510US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 576-0200
; TELEFAX: (415) 576-0300

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; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
;   LENGTH: 104 amino acids
;   TYPE: amino acid
;   STRANDEDNESS:
;   TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
;   NAME/KEY: Modified-site
;   LOCATION: 1
;   OTHER INFORMATION: /product= "OTHER"
;   OTHER INFORMATION: /note= "Xaa = Glu or pyroglutamic acid"
; FEATURE:
;   NAME/KEY: Protein
;   LOCATION: 1..104
;   OTHER INFORMATION: /note= "RNase A derived from
;   OTHER INFORMATION: Rana pipiens, "onc protein"
US-09-071-672-1

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Query Match          95.5%; Score 551; DB 4; Length 104;
Best Local Similarity 96.1%; Pred. No. 1.1e-59;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY      2 DWLTFQKKHLTNTTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLTTS 61
Db      2 DWLTFQKKHLTNTTRDVCNNIMSTNLFHCKDKNTFYSRPEPVKAICKGIIASKNVLTTS 61

QY      62 EYFLSDCNVTSRCPKYKLLKSKSTNTFCVTCENQAPVHFVGVGHC 104
Db      62 EYFLSDCNVTSRCPKYKLLKSKSTNTFCVTCENQAPVHFVGVGSC 104

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Search completed: May 7, 2004, 21:40:44
Job time : 12.0636 secs

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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:29:40 ; Search time 33.3695 Seconds
(without alignments)

865.070 Million cell updates/sec

Title: US-09-961-400-11

Perfect score: 577

Sequence: 1 SDWLTFQKKHLTNRDVCN.....TFCVTCENQAPVHFVGVGHC 104

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Gapop 10.0 , Gapext 0.5

Searched: 1140673 seqs, 277566755 residues

Total number of hits satisfying chosen parameters: 1140673

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Published Applications AA:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	577	100.0	104	10	US-09-948-391A-11	Sequence 11, Appl
2	577	100.0	104	10	US-09-961-400-11	Sequence 11, Appl
3	577	100.0	105	10	US-09-948-391A-13	Sequence 13, Appl
4	577	100.0	105	10	US-09-961-400-13	Sequence 13, Appl
5	573	99.3	104	10	US-09-961-400-2	Sequence 2, Appl
6	573	99.3	105	10	US-09-948-391A-6	Sequence 6, Appl
7	573	99.3	105	10	US-09-961-400-6	Sequence 6, Appl
8	573	99.3	127	10	US-09-948-391A-28	Sequence 28, Appl
9	573	99.3	127	10	US-09-961-400-28	Sequence 28, Appl
10	570	98.8	111	10	US-09-961-400-9	Sequence 9, Appl
11	564	97.7	104	10	US-09-948-391A-2	Sequence 2, Appl
12	564	97.7	104	10	US-09-948-391A-4	Sequence 4, Appl
13	564	97.7	104	10	US-09-961-400-4	Sequence 4, Appl
14	560	97.1	105	10	US-09-961-400-8	Sequence 8, Appl
15	555	96.2	105	10	US-09-948-391A-8	Sequence 8, Appl

16	555	96.2	111	10	US-09-948-391A-9	Sequence 9, Appl
17	551	95.5	104	9	US-09-986-119-1	Sequence 1, Appl
18	551	95.5	104	10	US-09-918-887-1	Sequence 1, Appl
19	551	95.5	105	14	US-10-153-882-2	Sequence 2, Appl
20	543	94.1	104	12	US-10-461-713-53	Sequence 53, Appl
21	445	77.1	83	9	US-09-986-119-3	Sequence 3, Appl
22	445	77.1	83	10	US-09-918-887-3	Sequence 3, Appl
23	280.5	48.6	110	10	US-09-948-391A-24	Sequence 24, Appl
24	280.5	48.6	110	10	US-09-961-400-24	Sequence 24, Appl
25	280.5	48.6	111	10	US-09-948-391A-26	Sequence 26, Appl
26	280.5	48.6	111	10	US-09-961-400-26	Sequence 26, Appl
27	276.5	47.9	110	10	US-09-948-391A-15	Sequence 15, Appl
28	276.5	47.9	110	10	US-09-961-400-15	Sequence 15, Appl
29	276.5	47.9	111	10	US-09-961-400-17	Sequence 17, Appl
30	272.5	47.2	110	10	US-09-961-400-19	Sequence 19, Appl
31	272.5	47.2	111	10	US-09-948-391A-21	Sequence 21, Appl
32	272.5	47.2	111	10	US-09-961-400-21	Sequence 21, Appl
33	272.5	47.2	117	10	US-09-948-391A-22	Sequence 22, Appl
34	272.5	47.2	117	10	US-09-961-400-22	Sequence 22, Appl
35	270.5	46.9	111	10	US-09-948-391A-17	Sequence 17, Appl
36	266.5	46.2	110	10	US-09-948-391A-19	Sequence 19, Appl
37	157.5	27.3	169	13	US-10-016-447-2	Sequence 2, Appl
38	144	25.0	119	12	US-10-016-248-89	Sequence 89, Appl
39	144	25.0	119	15	US-10-074-978A-139	Sequence 139, App
40	128.5	22.3	124	13	US-10-016-447-5	Sequence 5, Appl
41	125	21.7	124	12	US-10-037-417-103	Sequence 103, App
42	113	19.6	147	9	US-09-286-240-6	Sequence 6, Appl
43	113	19.6	147	9	US-09-863-777-2	Sequence 2, Appl
44	113	19.6	147	9	US-09-731-872-254	Sequence 254, App
45	113	19.6	147	10	US-09-876-997-254	Sequence 254, App

ALIGNMENTS

RESULT 1

US-09-948-391A-11
; Sequence 11, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:Rana pipiens
; OTHER INFORMATION: ribonuclease with Gln1Ser substitution
; OTHER INFORMATION: (recombinant RaPLR1 Q1S)
US-09-948-391A-11

Query Match 100.0%; Score 577; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.3e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY

1 SDWLTFQKKHLTNRDVCNNTMSNLFCKDKNTFIYSRPEPVKAI CKGIATSKNVLTT 60
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Db 61 SEFYSDCNVTSRCPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104

RESULT 2
US-09-961-400-11
; Sequence 11, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-11

Query Match 100.0%; Score 577; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.3e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 SDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLT 60
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QY 61 SEFYSDCNVTSRCPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYSDCNVTSRCPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104

RESULT 3
US-09-948-391A-13
; Sequence 13, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence

; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Gln2Ser
; OTHER INFORMATION: substitution (recombinant Met (-1) RspLr1 Q1S)
US-09-948-391A-13

Query Match 100.0%; Score 577; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 1.3e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 61 SEFYSDCNVTSRCPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104
Db 61 SEFYSDCNVTSRCPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104

RESULT 4
US-09-961-400-13
; Sequence 13, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 13
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-13

Query Match 100.0%; Score 577; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 1.3e-58;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 61 SEFYSDCNVTSRCPCKYKLLKSKTNTFCVTCENQAPVHFVGVGHC 104

RESULT 5
US-09-961-400-2
; Sequence 2, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
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; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.1
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-2

Query Match      99.3%; Score 573; DB 10; Length 104;
Best Local Similarity 100.0%; Pred. No. 3.8e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 2 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61

Qy 62 EFYLSDCNVTSPCKYKXKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 EFYLSDCNVTSPCKYKXKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 6
US-09-948-391A-6
; Sequence 6, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 (recombinant)
; OTHER INFORMATION: Met (-1) RapLR1
US-09-948-391A-6

Query Match      99.3%; Score 573; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 3.8e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
Db 3 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 62

Qy 62 EFYLSDCNVTSPCKYKXKSTNTFCVTCENQAPVHFVGVGHC 104
Db 63 EFYLSDCNVTSPCKYKXKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 7
US-09-961-400-6
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; Sequence 6, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.1
; SEQ ID NO 6
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-6

Query Match      99.3%; Score 573; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 3.8e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 61
Db 3 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTT 62

Qy 62 EFYLSDCNVTSPCKYKXKSTNTFCVTCENQAPVHFVGVGHC 104
Db 63 EFYLSDCNVTSPCKYKXKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 8
US-09-948-391A-28
; Sequence 28, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: Rana pipiens ribonuclease (RapLR1) Clone 5a1b cDNA
; OTHER INFORMATION: Insert
US-09-948-391A-28

Query Match      99.3%; Score 573; DB 10; Length 127;
Best Local Similarity 100.0%; Pred. No. 4.8e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
Db |||||
25 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 84
QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db |||||
85 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 9

US-09-961-400-28
; Sequence 28, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR FILING DATE: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 28
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Rana pipiens
US-09-961-400-28

Query Match 99.3%; Score 573; DB 10; Length 127;
Best Local Similarity 100.0%; Pred. No. 4.8e-58;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
Db |||||
25 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 84
QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db |||||
85 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 127

RESULT 10

US-09-961-400-9
; Sequence 9, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; PRIOR FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 9
; LENGTH: 111
; TYPE: PRT

; ORGANISM: Rana pipiens
US-09-961-400-9

Query Match 98.8%; Score 570; DB 10; Length 111;
Best Local Similarity 99.0%; Pred. No. 9e-58;
Matches 102; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
Db |||||
9 DMLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 68
QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db |||||
69 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 111

RESULT 11

US-09-948-391A-2
; Sequence 2, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens
; FEATURE:
; OTHER INFORMATION: ribonuclease (RaPLR1)
US-09-948-391A-2

Query Match 97.7%; Score 564; DB 10; Length 104;
Best Local Similarity 99.0%; Pred. No. 4.1e-57;
Matches 102; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
Db |||||
2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS 61
QY 62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db |||||
62 EFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 12

US-09-948-391A-4
; Sequence 4, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:
; APPLICANT: Rybak, Susanna M.
; APPLICANT: Newton, Dianne L.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10

; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Artificial Sequence

; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met23Leu substitution
; OTHER INFORMATION: (recombinant RaPLR1 Met23Leu)

US-09-948-391A-4

Query Match 97.7%; Score 564; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 4.1e-57;
Matches 101; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
Db 2 DDLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 13

US-09-961-400-4
; Sequence 4, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:

; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT

; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 104
; TYPE: PRT
; ORGANISM: Rana pipiens

US-09-961-400-4

Query Match 97.7%; Score 564; DB 10; Length 104;
Best Local Similarity 98.1%; Pred. No. 4.1e-57;
Matches 101; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
Db 2 DDLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 14

US-09-961-400-8

; Sequence 8, Application US/09961400
; Publication No. US20030124131A1
; GENERAL INFORMATION:
; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: GOLDENBERG, DAVID M.
; APPLICANT: NEWTON, DIANNE L.
; TITLE OF INVENTION: IMMUNOCONJUGATES OF TOXINS DIRECTED AGAINST MALIGNANT
; TITLE OF INVENTION: CELLS
; FILE REFERENCE: 018733/1059
; CURRENT APPLICATION NUMBER: US/09/961,400
; CURRENT FILING DATE: 2001-09-25
; PRIOR APPLICATION NUMBER: 09/622,613
; PRIOR FILING DATE: 2000-08-17
; PRIOR APPLICATION NUMBER: PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/079,751
; PRIOR FILING DATE: 1998-03-26
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Rana pipiens
; US-09-961-400-8

Query Match 97.1%; Score 560; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 1.2e-56;
Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 DDLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 61
Db 3 DDLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIASKNVLTT 62
QY 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
Db 63 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 15

US-09-948-391A-8
; Sequence 8, Application US/09948391A
; Publication No. US20030027311A1
; GENERAL INFORMATION:

; APPLICANT: RYBAK, SUSANNA M.
; APPLICANT: The United States of America
; APPLICANT: as represented by The Secretary of the
; APPLICANT: Department of Health and Human Services
; TITLE OF INVENTION: Recombinant Anti-Tumor RNase
; FILE REFERENCE: 015280-343110US
; CURRENT APPLICATION NUMBER: US/09/948,391A
; CURRENT FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: US 60/079,751
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: WO PCT/US99/06641
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: US 09/622,613
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:

; OTHER INFORMATION: Description of Artificial Sequence: Rana pipiens
; OTHER INFORMATION: ribonuclease with Met at position 1 and Met24Leu
; OTHER INFORMATION: substitution (recombinant Met(-1) RaPLR1 Met23Leu)
; US-09-948-391A-8

Query Match 96.2%; Score 555; DB 10; Length 105;
Best Local Similarity 97.1%; Pred. No. 4.5e-56;
Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY	2	DWLTROKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTS	61
Db	3	DWLTFOKGLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTTF	62
QY	62	EFYLSDCNVTSRPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC	104
Db	63	EFYLSDCNVTSRPCKYKLLKKSNTFCVTCENQAPVHFVGVGHC	105

Search completed: May 7, 2004, 21:51:57
Job time : 34.3695 secs

Result No.	Score	Query		DB	ID	Description
		Match	Length			
1	551	95.5	104	2	A39035	ribonuclease-relat
2	287	49.7	111	2	A27121	ribonuclease-relat
3	280.5	48.6	111	1	JX0120	ribonuclease-relat
4	264.5	45.8	111	2	JX0085	pancreatic ribonuc
5	144	25.0	119	2	S41111	pancreatic ribonuc
6	132	22.9	124	1	NRUI	pancreatic ribonuc
7	128	22.2	125	1	A32474	angioegenin [valida
8	126	21.8	128	1	NRGU	pancreatic ribonuc
9	125	21.7	124	1	NRWHK	pancreatic ribonuc
10	120	20.8	128	1	NRKS	pancreatic ribonuc
11	120	20.8	128	1	NRGPB	pancreatic ribonuc
12	119.5	20.7	145	1	A35932	angioegenin precurs
13	118	20.5	124	1	NRCEB	pancreatic ribonuc
14	117	20.3	128	1	NRVY	pancreatic ribonuc
15	116	20.1	125	1	B43825	angioegenin - rabbi
16	114	19.8	124	1	NRHP	pancreatic ribonuc
17	113	19.6	147	1	NRHUAG	angioegenin precurs
18	112	19.4	124	1	NRBOB	pancreatic ribonuc
19	112	19.4	124	1	NRPG	pancreatic ribonuc
20	112	19.4	128	1	NRPQ	pancreatic ribonuc
21	112	19.4	150	1	NRBO	pancreatic ribonuc
22	111.5	19.3	147	2	I52489	pancreatic ribonuc
23	111	19.2	124	2	S08549	ribonuclease 4 (EC
24	111	19.2	128	1	NRHO	ribonuclease - dom
25	111	19.2	167	2	S20066	pancreatic ribonuc
26	110.5	19.2	123	1	A43825	pancreatic-type ri
27	110.5	19.2	155	2	JC6159	angioegenin - pig
28	110	19.1	124	1	NRGPA	eosinophil-associa
29	110	19.1	156	2	JC6160	pancreatic ribonuc
30	110	19.1	124	2	NRGPA	eosinophil-associa

R;Bond, M.D.; Strydom, D.J.
 Biochemistry 28, 6110-6113, 1989
 A;Title: Amino acid sequence of bovine angiogenin.
 A;Reference number: A32474; MUID:89375344; PMID:2775757
 A;Accession: A32474
 A;Molecule type: protein
 A;Residues: 1-125 <BON>
 A;Experimental source: plasma
 R;Maes, P.; Damart, D.; Rommens, C.; Montreuil, J.; Spik, G.; Tartar, A.
 FEBS Lett. 241, 41-45, 1988
 A;Title: The complete amino acid sequence of bovine milk angiogenin.
 A;Reference number: S02001; MUID:89065101; PMID:3197838
 A;Accession: S02001
 A;Molecule type: protein
 A;Residues: 1-125 <MAE>
 A;Experimental source: milk
 R;Acharya, K.R.; Shapiro, R.; Riordan, J.F.; Vallee, B.L.
 submitted to the Brookhaven Protein Data Bank, January 1995
 A;Reference number: A65065; PDB:1AG1
 A;Contents: annotation; X-ray crystallography, 1.5 angstroms, residues 1-125
 R;Acharya, K.R.; Shapiro, R.; Riordan, J.F.; Vallee, B.L.
 Proc. Natl. Acad. Sci. U.S.A. 92, 2949-2953, 1995
 A;Title: Crystal structure of bovine angiogenin at 1.5 Angstroms resolution.
 A;Reference number: A58315; MUID:95224057; PMID:7708754
 A;Contents: annotation; X-ray crystallography, 1.5 angstroms
 R;Lequin, O.; Albaret, C.; Bontems, F.; Spik, G.; Lallemand, J.Y.
 submitted to the Brookhaven Protein Data Bank, April 1996
 A;Reference number: A65709; PDB:1G10
 A;Contents: annotation; conformation by (1)H-NMR, residues 1-125
 R;Lequin, O.; Albaret, C.; Bontems, F.; Spik, G.; Lallemand, J.Y.
 Biochemistry 35, 8870-8880, 1996
 A;Title: Solution structure of bovine angiogenin by (1)H nuclear magnetic resonance spectroscopy
 A;Reference number: A58821; MUID:96280645; PMID:8668423
 A;Contents: annotation; conformation by (1)H-NMR
 R;Reisdorf, C.; Abergel, D.; Bontems, F.; Lallemand, J.Y.; Decottignies, J.P.; Spik, G.
 Eur. J. Biochem. 224, 811-822, 1994
 A;Title: Proton resonance assignments and secondary structure of bovine angiogenin.
 A;Reference number: S48212; MUID:95010071; PMID:7925406
 A;Contents: annotation; conformation by (1)H-NMR
 C;Function:
 A;Description: hydrolyzes tRNA; induces vascularization of normal and malignant tissues
 C;Superfamily: pancreatic ribonuclease
 C;Keywords: angioneogenesis; hydrolase; nucleic acid degradation
 F;60-68/Region: receptor binding #status predicted
 F;14,41,115/Active site: His, Lys, His #status predicted
 F;27-82,40-93,58-108/Disulfide bonds: #status experimental

Query Match 22.2%; Score 128; DB 1; Length 125;
 Best Local Similarity 34.0%; Pred. No. 7.9e-06;
 Matches 33; Conservative 14; Mismatches 32; Indels 18; Gaps 5;

QY 16 DVDCCNIMSTNLF--HCKDKNTFYSRPEPVKAIKGIATSKN-----VLTTSEFYL 65
 Db 24 DEYCNMKNRLTPCKDRNTFIHGNKDIAKICE-----DRNGQYRGDLRIKSEFOI 79
 QY 66 SDC---NVTSR-PCKYKLKSTNTFCVTCENQAPVHF 98
 Db 80 TICHKGSSRRPCRYGATEDSRVIVGCGEGLPVHF 116

RESULT 8
 NRNU
 pancreatic ribonuclease (EC 3.1.27.5) - nutria (tentative sequence)
 N;Alternate names: RNase 1; RNase A
 C;Species: Myocastor coypus (nutria, coypu)
 C;Date: 24-Apr-1984 #sequence_revision 30-Sep-1988 #text_change 31-Mar-2000
 A;Accession: A00822
 R;van den Berg, A.; van den Hende-Timmer, L.; Beintema, J.J.
 Biochim. Biophys. Acta 453, 400-409, 1976
 A;Title: Isolation, properties and primary structure of coypu and chinchilla pancreatic
 A;Reference number: A30612; MUID:77065676; PMID:999896
 A;Accession: A00822
 A;Molecule type: protein

A;Residues: 1-128 <VAN>
 C;Superfamily: pancreatic ribonuclease
 C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F;12,41,119/Active site: His, Lys, His #status predicted
 F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F;34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Query Match 21.8%; Score 126; DB 1; Length 128;
 Best Local Similarity 29.9%; Pred. No. 1.3e-05;
 Matches 35; Conservative 18; Mismatches 36; Indels 28; Gaps 7;

QY 6 FQKXHL-----TNRDVCNNIM-STNLF--HCKDKNTFYSRPEPVKAIKGIATSKN 57
 Db 8 FERHMDSRGSPSTNPYCNEMKSRNMTQRCFPVNTFVHEPLADVAQC-----FQKNV 63
 QY 58 L-----TTSEFYLSDCNVTSRP-----CKYKLKSTNTFCVTCENQ--APVHF 98
 Db 64 LCKNGQTCVQSNMHTDCRVTSNDSYPCNCSRTSQEKSIVVACEGPNYPVPHF 120

RESULT 9
 NRWHK
 pancreatic ribonuclease (EC 3.1.27.5) - minke whale
 N;Alternate names: RNase 1; RNase A
 C;Species: Balaeoptera acutorostrata (minke whale, lesser rorqual)
 C;Date: 24-Apr-1984 #sequence_revision 24-Apr-1984 #text_change 03-Jun-1994
 C;Accession: A00818
 R;Emmens, M.; Weilling, G.W.; Beintema, J.J.
 Biochem. J. 157, 317-323, 1976
 A;Title: The amino acid sequence of pike whale (lesser rorqual) pancreatic ribonuclease
 A;Reference number: A00818; MUID:76277855; PMID:962870
 A;Molecule type: protein
 A;Residues: 1-124 <EMW>
 C;Superfamily: pancreatic ribonuclease
 C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F;12,41,119/Active site: His, Lys, His #status predicted
 F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F;76/Binding site: carbohydrate (Asn) (covalent) (partial) #status experimental

Query Match 21.7%; Score 125; DB 1; Length 124;
 Best Local Similarity 28.6%; Pred. No. 1.6e-05;
 Matches 34; Conservative 15; Mismatches 42; Indels 28; Gaps 6;

QY 4 LTFQKHLNTRDVD-----CNNIMSTNLF--HCKDKNTFYSRPEPVKAIKGIATSK 55
 Db 6 MKFQCHMDSGNSPGNNPYCNQMMRKMKTQRCFPVNTFVHESLEDVAVC-----SQK 61
 QY 56 NVL-----TTSEFYLSDCNVTSRP-----CKYKLKSTNTFCVTCENQ--APVHF 98
 Db 62 NVLCKNGRTNCTYESNMTHTDCRTGSSKYPNCAYKTSQKKEHIVACEGPNYPVPHF 120

RESULT 10
 NRKS

pancreatic ribonuclease (EC 3.1.27.5) - casiragua
 C;Species: Proechimys guarae (casiragua)
 C;Date: 17-Mar-1987 #sequence_revision 17-Mar-1987 #text_change 30-Sep-1993
 C;Accession: A00821
 R;Beintema, J.J.; Knol, G.; Martena, B.
 Biochim. Biophys. Acta 705, 102-110, 1982
 A;Title: The primary structures of pancreatic ribonucleases from African porcupine and
 A;Reference number: A90644; MUID:83000399; PMID:7115727
 A;Accession: A00821
 A;Molecule type: protein
 A;Residues: 1-128 <BEI>
 A;Note: residues 67-78 were positioned primarily by homology with other ribonucleases
 C;Superfamily: pancreatic ribonuclease
 C;Keywords: glycoprotein; hydrolase; nucleic acid digestion; pancreas
 F;12,41,119/Active site: His, Lys, His #status predicted
 F;26-84,40-95,58-110,65-72/Disulfide bonds: #status predicted
 F;34/Binding site: carbohydrate (Asn) (covalent) #status experimental

Search completed: May 7, 2004, 21:54:54
Job time : 9.43686 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:30:40 ; Search time 5.25351 Seconds
(without alignments)

1030.796 Million cell updates/sec

Title: US-09-961-400-11

Perfect score: 577

Sequence: 1 SDMLTFQKKHLNTRDVCN.....TFCVTCENQAPVHFVGVC 104

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	551	95.5	104	1	RN30_RANPI
2	287	49.7	133	1	RNPO_RANCA
3	280.5	48.6	111	1	LECS_RANFA
4	264.5	45.8	111	1	RNPL_RANCA
5	144	25.0	119	1	RNP_IGUIG
6	132	22.9	124	1	RNP_GALMU
7	130.5	22.6	145	1	ANGR_MOUSE
8	130.5	22.6	146	1	ANGI_CERAE
9	128	22.2	148	1	ANGI_BOVIN
10	126	21.8	128	1	RNP_MYOCC
11	125	21.7	124	1	RNP_BALAC
12	121.5	21.1	146	1	ANGI_MACMU
13	120	20.8	128	1	RNFB_CAVPO
14	120	20.8	128	1	RNP_PROGU
15	119.5	20.7	145	1	ANGI_MOUSE
16	118.5	20.5	146	1	ANGI_PAPHA
17	118	20.5	124	1	RNP_CHIBR
18	117	20.3	128	1	RNP_HVDHY
19	116	20.1	125	1	ANGI_RABIT
20	115	19.9	146	1	ANGI_MIOFA
21	114	19.8	124	1	RNP_HIPAM
22	113.5	19.7	147	1	RNS4_PANTR
23	113	19.6	147	1	ANGI_HUMAN
24	113	19.6	147	1	ANGI_PANTR
25	113	19.6	156	1	ECF3_MOUSE
26	112	19.4	124	1	RNP_PIG
27	112	19.4	128	1	RNP_HYSCR
28	112	19.4	150	1	RNP_BOVIN
29	112	19.4	156	1	RNP_MYOGL
30	111.5	19.3	147	1	RNS4_HUMAN
31	111	19.2	128	1	RNP_HORSE
32	111	19.2	146	1	ANGI_SAISC
33	111	19.2	167	1	RNBR_BOVIN

34	110.5	19.2	123	1	ANGI_PIG
35	110.5	19.2	155	1	ECPI_MOUSE
36	110	19.1	124	1	RNPA_CAVPO
37	110	19.1	141	1	RNBR_GIRCA
38	110	19.1	146	1	ANGI_SAGOE
39	110	19.1	151	1	RNBR_AXIPR
40	110	19.1	156	1	ECF2_MOUSE
41	109	18.9	123	1	ANG2_BOVIN
42	109	18.9	124	1	RNP_AEPME
43	109	18.9	124	1	RNP_ANTAM
44	109	18.9	124	1	RNP_SHEEP
45	108.5	18.8	150	1	RNS6_SAISC

ALIGNMENTS

RESULT 1
RN30_RANPI
ID RN30_RANPI STANDARD; PRT; 104 AA.
AC P22069;
DT 01-AUG-1991 (Rel. 19, Created)
DT 01-FEB-1994 (Rel. 28, last sequence update)
DT 28-FEB-2003 (Rel. 41, last annotation update)
DE P-30 protein (EC 3.1.27.-) (Onconase).
OS Rana pipiens (Northern leopard frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.
OX NCBI_TaxID=8404;
RN [1]
RP SEQUENCE.
RC TISSUE=Embryo;
RX MEDLINE=91091131; PubMed=1985896;
RA Ardelt W., Mikulski S.M., Shogen K.;
RT "Amino acid sequence of an anti-tumor protein from Rana pipiens oocytes and early embryos. Homology to pancreatic ribonucleases.";
RL J. Biol. Chem. 266:245-251(1991).
RN [2]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=93066156; PubMed=1438177;
RA Mosimann S.C., Johns K.L., Ardelt W., Mikulski S.M., Shogen K., James M.N.G.;
RT "Comparative molecular modeling and crystallization of P-30 protein: a novel antitumor protein of Rana pipiens oocytes and early embryos.";
RL Proteins 14:392-400(1992).
RN [3]
RX X-RAY CRYSTALLOGRAPHY (1.7 ANGSTROMS).
RX MEDLINE=94166079; PubMed=8120892;
RA Mosimann S.C., Ardelt W., James M.N.G.;
RT "Refined 1.7 A X-ray crystallographic structure of P-30 protein, an amphibian ribonuclease with anti-tumor activity.";
RL J. Mol. Biol. 236:1141-1153(1994).
CC -!- FUNCTION: Basic protein with antiproliferative/cytotoxic activity against several tumor cell lines in vitro, as well as antitumor in vivo. It exhibits a ribonuclease-like activity against high molecular weight ribosomal RNA.
CC -!- DEVELOPMENTAL STAGE: Early embryos (up to four blastomere stage).
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PDB; 1ONC; 31-JAN-94.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnaaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SMO0092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; 3D-structure;
KW Pyridolone carboxylic acid.
FT MOD_RES 1 10
FT ACT_SITE 10 10
FT ACT_SITE 31 31
FT ACT_SITE 97 97
FT DISULFID 19 68
FT DISULFID 30 75

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FT DISULFID 48 90
FT DISULFID 87 104
FT HELIX 3 10
FT STRAND 11 12
FT HELIX 19 22
FT TURN 23 24
FT TURN 26 30
FT STRAND 33 38
FT HELIX 41 45
FT HELIX 46 48
FT TURN 49 50
FT STRAND 55 58
FT STRAND 63 70
FT TURN 74 75
FT STRAND 77 84
FT STRAND 86 91
FT TURN 92 93
FT STRAND 94 101
SQ SEQUENCE 104 AA; 11845 MW; 22A753C2F9E566B4 CRC64;

Query Match 95.5%; Score 551; DB 1; Length 104;
Best Local Similarity 96.1%; Pred. No. 3.5e-52;
Matches 99; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 2 DMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEVPVKAICKGIASKNVLTTS 61
Db 2 DMLTFQKKHITNRDVCNNIMSTNLFHCKDKNTFIYSRPEVPVKAICKGIASKNVLTTS 61

OY 62 EYLSDCNVTSPCKYKLKKSNTFCVTENQAPVHFVGVGHC 104
Db 62 EYLSDCNVTSPCKYKLKKSNTFCVTENQAPVHFVGVGSC 104

RESULT 2
RNPO RANCA
ID RNPO RANCA STANDARD; PRT; 133 AA.
AC P11916; Q9PWR7;
DT 01-OCT-1989 (Rel. 12, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Ribonuclease, oocytes precursor (EC 3.1.27.-) (RC-RNase) (Sialic acid-
binding lectin) (SBU-C).
GN RCR.
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
OX NCBI_TaxID=8400;
RN [1]_TaxID=8400;
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=98165825; PubMed=9497370;
RA Huang H.C., Wang S.C., Leu Y.J., Lu S.C., Liao Y.D.;
RT "The Rana catesbeiana rcr gene encoding a cytotoxic ribonuclease.
Tissue distribution, cloning, purification, cytotoxicity, and active
residues for RNase activity.";
RL J. Biol. Chem. 273:6395-6401(1998).
RN [2]
RP SEQUENCE OF 23-133.
RC TISSUE=Egg;
RX MEDLINE=87299649; PubMed=3304421;
RA Titani K., Takio K., Kuwada M., Nitta K., Sakakibara F., Kawauchi H.,
RA Takayanagi Y., Hakomori S.;
RT "Amino acid sequence of sialic acid binding lectin from frog (Rana
catesbeiana) eggs.";
RL Biochemistry 26:2189-2194(1987).
RN [3]
RP CHARACTERIZATION, AND SEQUENCE OF 81-101.
RX MEDLINE=92220613; PubMed=1373237;
RA Liao Y.-D.;
RT "A pyrimidine-guanine sequence-specific ribonuclease from Rana
catesbeiana (bullfrog) oocytes.";
RL Nucleic Acids Res. 20:1371-1377(1992).
RN [4]

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RP CHARACTERIZATION.
RX TISSUE=Egg;
RX MEDLINE=93192604; PubMed=8448385;
RA Nitta K., Oyama F., Oyama R., Sekiguchi K., Kawauchi H.,
RA Takayanagi Y., Hakomori S., Titani K.;
RT "Ribonuclease activity of sialic acid-binding lectin from Rana
catesbeiana eggs.";
RL Glycobiology 3:37-45(1993).
RN [5]
RP STRUCTURE BY NMR OF 23-133.
RX MEDLINE=98437383; PubMed=9761686;
RA Chang C.-F., Chen C., Chen Y.-C., Hom K., Huang R.-F., Huang T.H.;
RT "The solution structure of a cytotoxic ribonuclease from the oocytes
of Rana catesbeiana (bullfrog).";
RL J. Mol. Biol. 283:231-244(1998).
CC -!- FUNCTION: Preferentially cleaves single-stranded RNA at pyrimidine
residues with a 3'flanking guanine. Hydrolyzes poly(U) and poly(C)
as substrates, and prefers the former. The S-lectins in frog eggs
may be involved in the fertilization and development of the frog
embryo. This lectin agglutinates various animal cells, including
normal lymphocytes, erythrocytes, and fibroblasts of animal and
human origin. It is cytotoxic against several tumor cells.
CC -!- SUBUNIT: Monomer.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
between the Swiss Institute of Bioinformatics and the EMBL outstation -
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entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AF039104; AAD10702.1; -
DR PIR; A27121; A27121.
DR PDB; 1BC4; 28-OCT-98.
DR PDB; 1W07; 21-JAN-03.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase PC; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolase; Nuclease; Endonuclease; Sialic acid; Lectin; 3D-structure;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 22
FT CHAIN 23 133 RIBONUCLEASE, OOCYTES.
FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 32 32
FT ACT_SITE 57 57
FT ACT_SITE 125 125
FT DISULFID 41 93
FT DISULFID 56 103
FT DISULFID 74 118
FT DISULFID 115 132
FT HELIX 25 32
FT HELIX 41 45
FT TURN 48 49
FT STRAND 59 63
FT HELIX 67 73
FT TURN 74 74
FT STRAND 79 84
FT STRAND 90 95
FT STRAND 105 110
FT STRAND 114 119
FT TURN 120 121
FT STRAND 122 129
SQ SEQUENCE 133 AA; 14762 MW; A7D62594F7D16F0C CRC64;

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Query Match 49.7%; Score 287; DB 1; Length 133;
Best Local Similarity 49.1%; Pred. No. 7.4e-24;
Matches 54; Conservative 16; Mismatches 32; Indels 8; Gaps 3;

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QY 2 DMLTQKHLTNRDVCNNIMSTNLF-----HCKDKNTFYSRPEPVKAICKGIIASKNV 57
DB 24 NWATQKHLTNRDVCNNIMSTNLF-----HCKDKNTFYSRPEPVKAICKGIIASKNV 82
QY 58 LTTSEFYLSDC---NVTSPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 104
DB 83 LSTTRFQLNCTRTSITPRPCPYSSRTETNYICVKCENQYPVHFAGIGRC 132

RESULT 3
LECS_RANJA
ID LECS_RANJA STANDARD; PRT; 111 AA.
AC P18839;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Sialic acid-binding lectin (EC 3.1.27.-).
OS Rana japonica (Japanese reddish frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.
OX NCBI_TaxID=8402;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Egg;
RX MEDLINE=91035319; PubMed=2229005;
RA Kamiya Y., Oyama F., Oyama R., Sakakibara F., Nitta K., Kawauchi H.,
RT Takayanagi Y., Titani K.;
RT "Amino acid sequence of a lectin from Japanese frog (Rana japonica)
RL eggs.";
RL J. Biochem. 108:139-143 (1990).
CC -!- FUNCTION: The S-lectins in frog eggs may be involved in the
CC fertilization and development of the frog embryo. This lectin
CC preferentially agglutinate a large variety of tumor cells, but it
CC does not agglutinate non-transformed cells and erythrocytes.
CC -!- SUBUNIT: Monomer.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; JX0120; JX0120.
DR HSSP; P11916; 1BC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Pyridolone carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 35 35 BY SIMILARITY.
FT ACT_SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12326 MW; FDEBDDF3834ED679 CRC64;

Query Match 48.6%; Score 280.5; DB 1; Length 111;
Best Local Similarity 44.5%; Pred. No. 3e-23;
Matches 49; Conservative 19; Mismatches 35; Indels 7; Gaps 2;

QY 2 DMLTQKHLTNRDVCNNIMSTNLF-----HCKDKNTFYSRPEPVKAICKGIIASKNV 57
DB 24 NWATQKHLTNRDVCNNIMSTNLF-----HCKDKNTFYSRPEPVKAICKGIIASKNV 61
QY 58 LTTSEFYLSDC---NVTSPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 104
DB 62 LSTTRFQLNCTRSATAPPCPNSTETNYICVKCNRLPVHFAGIGRC 111

RESULT 4
RNPL_RANCA
ID RNPL_RANCA STANDARD; PRT; 111 AA.
AC P14626;

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DT 01-APR-1990 (Rel. 14, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease, liver (EC 3.1.27.5).
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP SEQUENCE.
RC TISSUE=Liver;
RX MEDLINE=90130374; PubMed=2613682;
RA Nitta R., Katayama N., Okabe Y., Iwama M., Watanabe H., Abe Y.,
RA Okazaki T., Ohgi K., Irie M.;
RT "Primary structure of a ribonuclease from bullfrog (Rana catesbeiana)
RT liver.";
RL J. Biochem. 106:729-735 (1989).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-
CC phosphates and 3'-phosphooligonucleotides ending in C-P or U-P
CC with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; JX0085; JX0085.
DR HSSP; P11916; 1BC4.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; rnaseA; 1.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNase_Pc; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
KW Hydrolyase; Nuclease; Endonuclease; Pyridolone carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT ACT_SITE 10 10 BY SIMILARITY.
FT ACT_SITE 35 35 BY SIMILARITY.
FT ACT_SITE 104 104 BY SIMILARITY.
FT DISULFID 19 72 BY SIMILARITY.
FT DISULFID 34 82 BY SIMILARITY.
FT DISULFID 52 97 BY SIMILARITY.
FT DISULFID 94 111 PROBABLE.
SQ SEQUENCE 111 AA; 12461 MW; D64BA72456C10788 CRC64;

Query Match 45.8%; Score 264.5; DB 1; Length 111;
Best Local Similarity 42.7%; Pred. No. 1.5e-21;
Matches 47; Conservative 19; Mismatches 37; Indels 7; Gaps 2;

QY 2 DMLTQKHLTNRDVCNNIMSTNLF-----HCKDKNTFYSRPEPVKAICKGIIASKNV 57
DB 24 NWATQKHLTNRDVCNNIMSTNLF-----HCKDKNTFYSRPEPVKAICKGIIASKNV 61
QY 58 LTTSEFYLSDC---NVTSPCKYKLSKSTNTFCVTCENQAPVHFVGVGHC 104
DB 62 LSTTSFKLNTCIRSDITPRPCPYHPSDNNKICVKCEKQLPVHFVGVGIC 111

RESULT 5
RNP_IGUIG
ID RNP_IGUIG STANDARD; PRT; 119 AA.
AC P80287;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic (EC 3.1.27.5) (RNase 1) (RNase A).
OS Iguana iguana (Common iguana).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Iguania; Iguanidae; Iguaninae; Iguana.
OX NCBI_TaxID=8517;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=94139745; PubMed=8307028;
RA Zhao W., Beintema J.J., Hofsteenge J.;
RT "The amino acid sequence of iguana (Iguana iguana) pancreatic
RT ribonuclease.";
RL Eur. J. Biochem. 219:641-646 (1994).

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FT	ACT SITE	37	37	BY SIMILARITY.	
FT	ACT_SITE	64	64	BY SIMILARITY.	
FT	ACT_SITE	138	138	BY SIMILARITY.	
FT	DISULFID	50	105	BY SIMILARITY.	
FT	DISULFID	63	116	BY SIMILARITY.	
FT	DISULFID	81	131	BY SIMILARITY.	
SQ	SEQUENCE	146 AA;	16444 MW; 27860112E85B8DF9 CRC64;		
	Query Match	22.6%;	Score 130.5; DB 1; Length 146;		
	Best Local Similarity	30.7%;	Fred. No. 4.3e-07;		
	Matches	31; Conservative	17; Mismatches 30; Indels	23	
Qy	5	TFQKKHLTNRDVCNIMSTNLFCKKNTIYSRPEPVKAIC---	KGIIA		
Db	53	TWRRRLTSP-----	CKDINTFIHGRHHIKAICGDENGNPY		
Qy	61	SEFYLSDCNVTs----	RPKYKLKKSNTFCVTCENQAPVH	97	
Db	98	SPFQVTTCLNLRGGSPRPCCQVATGRSNIVVGCENGLPVH	138		

RESULT 9

ANGI_BOVIN	ANGI_BOVIN	STANDARD;	PRT; 148 AA.
ID	ANGI_BOVIN		
AC	P10152; Q9GKP9;		
DT	01-MAR-1989 (Rel. 10, Created)		
DT	28-FEB-2003 (Rel. 41, Last sequence update)		
DT	15-MAR-2004 (Rel. 43, Last annotation update)		
DE	Angiogenin-1 precursor (EC 3.1.27.-).		
GN	ANGI OR ANG.		
OS	Bos taurus (Bovine).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi		
OC	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae		
OX	NCHI_TaxID=9913;		
[1]			
RP	SEQUENCE FROM N.A.		
RC	TISSUE=Liver;		
RA	Chang S.-I.;		
RT	"Cloning, sequencing, and expression of bovine angiogenin.";		
RL	Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.		
[2]			
RP	SEQUENCE OF 24-148.		
RC	TISSUE=Milk;		
RA	MEDLINE=89065101; PubMed=3197838;		
RX	Maes P., Damart D., Rommens C., Montreuil J., Spik G., Tartar		
RT	"The complete amino acid sequence of bovine milk angiogenin."		
RL	FEBS Lett. 241:41-45(1988).		
[3]			
RP	SEQUENCE OF 24-148.		
RC	TISSUE=Plasma;		
RX	MEDLINE=89375344; PubMed=2775757;		
RA	Bond M.D., Strydom D.J.;		
RT	"Amino acid sequence of bovine angiogenin.";		
RL	Biochemistry 28:6110-6113(1989).		
[4]			
RP	CHARACTERIZATION, AND SEQUENCE OF 25-55.		
RC	TISSUE=Plasma;		
RX	MEDLINE=89118214; PubMed=3064806;		
RA	Bond M.D., Vallee B.L.;		
RT	"Isolation of bovine angiogenin using a placental ribonuclease		
RL	inhibitor binding assay.";		
RL	Biochemistry 27:6282-6287(1988).		
[5]			
RP	X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS).		
RX	MEDLINE=95224057; PubMed=7708754;		
RA	Acharya K.R., Shapiro R., Riordan J.F., Vallee B.L.;		
RT	"Crystal structure of bovine angiogenin at 1.5-A resolution."		
RL	Proc. Natl. Acad. Sci. U.S.A. 92:2949-2953(1995).		
[6]			
RP	STRUCTURE BY NMR.		
RX	MEDLINE=96280645; PubMed=8688423;		
RA	Laguin O., Albaret C., Bontems F., Spik G., Lallemand J.-Y.;		


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DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNaseA; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
DR KW Hydrolyase; Nuclease; Endonuclease; Glycoprotein.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
DR FT SIGNAL 1 24
FT CHAIN 25 146
FT MOD_RES 25 25
FT ACT_SITE 37 37
FT ACT_SITE 64 64
FT ACT_SITE 138 138
FT DISULFID 50 105
FT DISULFID 63 116
FT DISULFID 81 131
FT CARBOHYD 76
FT SEQUENCE 124 AA; 14125 MW; F57475459P697E20 CRC64;
SQ

Query Match 21.7%; Score 125; DB 1; Length 124;
Best Local Similarity 28.6%; Pred. No. 1.4e-06;
Matches 34; Conservative 15; Mismatches 42; Indels 28; Gaps 6;

QY 4 LTFQKKHLTNTDVID-----CNNTIMSTLNF---HCKDKNTFIYSRPEPVKAIC--KGLIASKV-LTT 55
DB 6 MKFQEHQDSGNSPQNNFNQNMRRKMTQGRCKPVTTFVHESLEDVKAIC-----SQK 61
QY 56 NVL-----TTFEYLSDCNVTSRP-----CKYKLKSTNTFCVTCENQ--APVHF 98
DB 62 NVLCKNGRTNCYESNTWHITDCRTGSSKYPNCAYKTSQREKHIIVACGNFYVPVHF 120

RESULT 12
ANGI_MACMU
ID _ANGI_MACMU STANDARD; PRT; 146 AA.
AC Q8WN63;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Angiogenin precursor (EC 3.1.27.-) (Ribonuclease 5) (RNase 5).
GN ANG OR RNASE5.
OS Eukarya; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
OC Cercopitheciinae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21918422; PubMed=11919285;
RA Zhang J., Rosenberg H.F.;
RT "Diversifying selection of the tumor-growth promoter angiogenin in primate evolution."
RL Mol. Biol. Evol. 19:438-445(2002).
CC -!- FUNCTION: May function as a tRNA-specific ribonuclease that binds to actin on the surface of endothelial cells; once bound, thereby angiogenin is endocytosed and translocated to the nucleus, thereby promoting the endothelial invasiveness necessary for blood vessel formation. Angiogenin induces vascularization of normal and malignant tissues. Abolishes protein synthesis by specifically hydrolyzing cellular tRNAs (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
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CC
CC EMBL; AF441667; AAL61649.1; --
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
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DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNaseA; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
DR KW Hydrolyase; Nuclease; Endonuclease; Angiogenesis;
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
DR FT SIGNAL 1 24
FT CHAIN 25 146
FT MOD_RES 25 25
FT ACT_SITE 37 37
FT ACT_SITE 64 64
FT ACT_SITE 138 138
FT DISULFID 50 105
FT DISULFID 63 116
FT DISULFID 81 131
FT SEQUENCE 146 AA; 16301 MW; E39A89215DB2A2A4 CRC64;
SQ

Query Match 21.1%; Score 121.5; DB 1; Length 146;
Best Local Similarity 28.7%; Pred. No. 3.9e-06;
Matches 29; Conservative 17; Mismatches 32; Indels 23; Gaps 4;

QY 5 TFOKKHLTNTDVIDCINNIMSTNLPHCKDKNTFIYSRPEPVKAIC---KGLIASKV-LTT 60
DB 53 TMRRLHTSP-----CKDINTFVGNRHHTAICGDENGSPYGGNLRIST 97
QY 61 SEFYLSDCNVTSTSRP-----RPCKYKLKSTNTFCVTCENQAPVH 97
DB 98 SPFQVTTCKLGGSPRPFCQYRATGSGNIVVGCENGLPVH 138

RESULT 13
RNPB_CAVPO
ID _RNPB_CAVPO STANDARD; PRT; 128 AA.
AC P00679;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Ribonuclease pancreatic B (EC 3.1.27.5) (RNase IB).
GN Cavia porcellus (Guinea pig).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=77185023; PubMed=862624;
RA van den Berg A., van den Hende-Timmer L., Hofsteenge J., Gaastra W., Beintema J.J.;
RT "Guinea-pig pancreatic ribonucleases. Isolation, properties, primary structure and glycosylation."
RL Eur. J. Biochem. 75:91-100(1977).
CC -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage to nucleoside 3'-phosphates and 3'-phosphooligonucleotides ending in C-P or U-P with 2',3'-cyclic phosphate intermediates.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Pancreas.
CC -!- SIMILARITY: Belongs to the pancreatic ribonuclease family.
DR PIR; A00826; NRGPB.
DR HSP; P00656; 1SRN.
DR InterPro; IPR001427; RNaseA.
DR Pfam; PF00074; RNaseA; 1.
DR PRINTS; PR00794; RIBONUCLEASE.
DR ProDom; PD000535; RNaseA; 1.
DR SMART; SM00092; RNaseA; 1.
DR PROSITE; PS00127; RNASE_PANCREATIC; 1.
DR KW Hydrolyase; Nuclease; Endonuclease; Glycoprotein.
FT DISULFID 26 84
FT DISULFID 40 95
FT DISULFID 58 110
FT DISULFID 65 72
FT DISULFID 81 12
FT ACT_SITE 12 41
FT ACT_SITE 41 119
FT ACT_SITE 119 119
```

[illegible]

RESULT	15
ANGI MOUSE	
ID	ANGI
AC	P2157
DT	01-MA
DT	01-MA
DT	15-MA
DE	Angio
GN	ANG.
OS	Mus m
OC	Eukar
OC	Eukar

RN	[1]	SEQU	MEDLI	Bond	"Isol	Bioch
RP						
RX						
RA						
RT						
RL						

-!- st CC
-!- st CC
----- CC
This s CC
between CC
the En CC

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: May 7, 2004, 21:25:55 ; Search time 44.7895 Seconds
(without alignments)
662.376 Million cell updates/sec

Title: US-09-961-400-13

Perfect score: 582

Sequence: 1 MSDMLTFQKKHLTNRDVC.....TFCVTCENQAPVHFVGVC HC 105

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A_Geneseq_29Jan04:*
1: Geneseqp1980s:*
2: Geneseqp1990s:*
3: Geneseqp2000s:*
4: Geneseqp2001s:*
5: Geneseqp2002s:*
6: Geneseqp2003as:*
7: Geneseqp2003bs:*
8: Geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	582	100.0	105	2	AAY28871 Recombina
2	578	99.3	105	2	AAY28867 Recombina
3	577	99.1	104	2	AAY28870 Recombina
4	575	98.8	105	2	AAY28869 Recombina
5	573	98.5	104	2	AAY28865 Recombina
6	573	98.5	127	2	AAY28879 Rana pipi
7	570	97.9	104	2	AAY28866 Recombina
8	560	96.2	112	2	AAY35118 R. pipien
9	560	96.2	251	2	AAY35134 R. pipien
10	560	96.2	254	2	AAY35135 R. pipien
11	560	96.2	355	2	AAY35133 R. pipien
12	560	96.2	355	2	AAY35129 R. pipien
13	560	96.2	366	2	AAY35132 R. pipien
14	556	95.5	104	2	AAY06544 Antitumou
15	556	95.5	105	2	AAY35123 R. pipien
16	556	95.5	355	2	AAY35125 R. pipien
17	556	95.5	358	2	AAY35130 R. pipien
18	555	95.4	105	2	AAY35116 R. pipien
19	553	95.0	105	2	AAY39400 Recombina
20	551	94.7	104	2	AAR12344 Protein w
21	551	94.7	104	2	AAR47303 ONCONASE
22	551	94.7	104	2	AAY00736 Protein d
23	551	94.7	104	2	AAY14065 Onconase
24	551	94.7	104	2	AAY06543 Antitumou
25	551	94.7	104	2	AAY30301 Recombina

26	551	94.7	104	2	AAW88233
27	551	94.7	104	2	AAV33322
28	551	94.7	104	4	AB31666 Amino aci
29	551	94.7	104	5	AB32850 Northern
30	551	94.7	106	2	AAW35122 R. pipien
31	551	94.7	107	2	AAW35117 R. pipien
32	551	94.7	358	2	AAW35127 R. pipien
33	551	94.7	365	2	AAW35131 R. pipien
34	551	94.7	379	2	AAW35126 R. pipien
35	549	94.3	105	2	AAW35115 R. pipien
36	548	94.2	104	2	AAW30302 Recombina
37	546	93.8	104	2	AAW18224 Antitumou
38	543	93.3	104	4	AB31667 Amino aci
39	543	93.3	104	5	AB31617 Northern
40	532	91.4	107	2	AAW35120 R. pipien
41	499	85.7	360	2	AAW35128 R. pipien
42	484.5	83.2	111	2	AAW35121 R. pipien
43	445	76.5	83	2	AAW35119 R. pipien
44	445	76.5	83	2	AAW88234 Rana pipi
45	287	49.3	111	2	AAV33321 Frog lect

ALIGNMENTS

RESULT 1
AAY28871 standard; protein; 105 AA.
XX
AC AAY28871;
XX
DT 25-JAN-2000 (first entry)
XX
DE Recombinant Met (-1) RaPLR1 Gln1Ser amino acid sequence.
XX
KW Recombinant Met (-1) Rana pipiens ribonuclease Gln1Ser; RaPLR1; CD22;
covalently bound; IL2 antibody; ligand binding moiety; cancerous B cell;
Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
KW autoimmune disease; RNase.
XX Rana pipiens.
OS Synthetic.
XX
XX Key Location/Qualifiers
FT Misc-difference 1 /note= "Met not found in wild type RaPLR1"
FT Misc-difference 2 /note= "Wild type Gln replaced with Ser"
FT
XX WO9950398-A2.
XX
PD 07-OCT-1999.
XX
PF 26-MAR-1999; 99WO-US006641.
XX
PR 27-MAR-1998; 98US-0079751P.
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX
XX Rybak SM, Newton DL;
XX WPI; 1999-610847/52.
XX N-PSDB; AMZ08129.
XX
XX New Recombinant ribonucleases, used for killing target cells, e.g. for
treating cancers, viral infections or autoimmune diseases.
XX Claim 34; Page 61; 71pp; English.
XX
XX The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
protein with Met at position 1 and Gln2Ser. Carboxy terminal end of
recombinant RaPLR1 has a covalently bound ligand binding moiety, which

CC can be a LL2 antibody directed against CD22 on cancerous B cells or human
 CC chorioc gonadotrophin (hCG) effective against Kaposi's sarcoma cells.
 CC Recombinant ribonucleases can be expressed in bacteria without an N-
 CC terminal methionine due to the presence of a signal peptide that is
 CC cleaved by bacteria. The soluble expression of ribonuclease allows the
 CC proteins to be fused in-frame with ligand binding moieties to form
 CC cytotoxic fusion proteins. They can be used for treatment of cancer and
 CC autoimmune diseases

SQ Sequence 105 AA;
 Query Match 100.0%; Score 582; DB 2; Length 105;
 Best Local Similarity 100.0%; Pred. No. 2.6e-62;
 Matches 105; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MSDMLTFQKKHLTNTEDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 Db 1 MSDMLTFQKKHLTNTEDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 QY 61 TSEFYLSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105
 Db 61 TSEFYLSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105

RESULT 2
 AAY28867
 ID AAY28867 standard; protein; 105 AA.
 AC AAY28867;
 DT 25-JAN-2000 (first entry)
 DE Recombinant Met (-1) RaPLR1.
 KW Recombinant Met (-1) Rana pipiens ribonuclease; RaPLR1; CD22; RNase;
 KW covalently bound; LL2 antibody; ligand binding moiety; cancerous B cell;
 KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;
 KW autoimmune disease.
 OS Rana pipiens.
 OS Synthetic.
 FH Key Location/Qualifiers
 FT Misc-difference 1 /note= "Met not found in wild type RaPLR1"
 FT
 FT
 FT
 FN WO9950398-A2.
 PD 07-OCT-1999.
 PD
 PF 26-MAR-1999; 99WO-US006641.
 PF
 PR 27-MAR-1998; 98US-0079751P.
 PR
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PA
 PI Rybak SM, Newton DL;
 PI
 PI
 DR WPI: 1999-610847/52.
 DR N-PSDB; AAZ08126.
 XX
 PT New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.
 PS Claim 34; Page 57; 71pp; English.
 PS
 CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Met at position 1. Carboxy terminal end of recombinant
 CC RaPLR1 has a covalently bound ligand binding moiety, which can be a LL2
 CC antibody directed against CD22 on cancerous B cells or human chorionic
 CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal

CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion
 CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

SQ Sequence 105 AA;
 Query Match 99.3%; Score 578; DB 2; Length 105;
 Best Local Similarity 99.0%; Pred. No. 8e-62;
 Matches 104; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MSDMLTFQKKHLTNTEDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 Db 1 MQDMLTFQKKHLTNTEDVDCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
 QY 61 TSEFYLSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105
 Db 61 TSEFYLSDCNVTSRCPCKYKLLKSTNTFCVTCENQAPVHFVGHC 105

RESULT 3
 AAY28870
 ID AAY28870 standard; protein; 104 AA.
 AC AAY28870;
 DT 25-JAN-2000 (first entry)
 DE Recombinant RaPLR1 Gln1Ser amino acid sequence.
 KW Recombinant Rana pipiens ribonuclease; RaPLR1 Gln1Ser; covalently bound;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; frog;
 KW Kaposi's sarcoma; human chorionic gonadotrophin; hCG; signal peptide;
 KW recombinant ribonuclease; cytotoxic fusion protein; cancer; RNase;
 KW autoimmune disease.
 OS Rana pipiens.
 OS Synthetic.
 FH Key Location/Qualifiers
 FT Misc-difference 1 /note= "Wild type Gln replaced with Ser"
 FT
 FT
 FT
 FN WO9950398-A2.
 PD 07-OCT-1999.
 PD
 PF 26-MAR-1999; 99WO-US006641.
 PF
 PR 27-MAR-1998; 98US-0079751P.
 PR
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PA
 PI Rybak SM, Newton DL;
 PI
 PI
 DR WPI: 1999-610847/52.
 DR N-PSDB; AAZ08128.
 XX
 PT New recombinant ribonucleases, used for killing target cells, e.g. for
 PT treating cancers, viral infections or autoimmune diseases.
 PS Claim 34; Page 60; 71pp; English.
 PS
 CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1)
 CC protein with Gln1Ser. Carboxy terminal end of recombinant RaPLR1 has a
 CC covalently bound ligand binding moiety, which can be a LL2 antibody
 CC directed against CD22 on cancerous B cells or human chorionic
 CC gonadotrophin (hCG) effective against Kaposi's sarcoma cells. Recombinant
 CC ribonucleases can be expressed in bacteria without an N-terminal
 CC methionine due to the presence of a signal peptide that is cleaved by
 CC bacteria. The soluble expression of ribonuclease allows the proteins to
 CC be fused in-frame with ligand binding moieties to form cytotoxic fusion

CC proteins. They can be used for treatment of cancer and autoimmune
 CC diseases

XX Sequence 104 AA;

SQ Query Match 99.1%; Score 577; DB 2; Length 104;
 Best Local Similarity 100.0%; Pred. No. 1e-61;
 Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLTT 61
 Db 1 SDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLTT 60
 Qy 62 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 Db 61 SEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104

RESULT 4

AAy28869
 ID AAY28869 standard; protein; 105 AA.

XX AC AAY28869;

XX DT 25-JAN-2000 (first entry)

XX DE Recombinant Met(-1) RapLr1 Met23Leu-(His)6 protein.

XX KW Recombinant Met(-1) Rana pipiens ribonuclease Met23Leu-(His)6; RapLr1;
 KW CD22; covalently bound; LL2 antibody; ligand binding moiety; RNase;
 KW cancerous B cell; Kaposi's sarcoma; human chorionic gonadotrophin; hCG;
 KW signal peptide; recombinant ribonuclease; cytotoxic fusion protein;
 KW cancer; frog; autoimmune disease.

XX OS Rana pipiens.

XX OS Synthetic.

XX FH Key Location/Qualifiers

FT Misc-difference 1 /note= "Met not found in wild type RapLr1"

FT Misc-difference 1 /note= "(His)6 histidine tag attached to N-terminal Met"

FT Misc-difference 24

FT /note= "Wild type Met replaced with Leu"

XX PN WO9950398-A2.

XX PD 07-OCT-1999.

XX PF 26-MAR-1999; 99WO-US006641.

XX PR 27-MAR-1998; 98US-0079751P.

XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX PI Rybak SM, Newton DL;

XX DR WPI; 1999-610847/52.

XX DR N-PSDB; AAZ08127.

XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
 treating cancers, viral infections or autoimmune diseases.

XX PS Claim 4; Page 59; 71pp; English.

XX CC The present sequence is a recombinant Rana pipiens ribonuclease protein
 CC (RapLr1) with Met at position 1 attached to (His)6 tag and Met24Leu.
 CC Carboxy terminal end of recombinant RapLr1 has a covalently bound ligand
 CC binding moiety, which can be a LL2 antibody directed against CD22 on
 CC cancerous B cells or human chorionic gonadotrophin (hCG) effective
 CC against Kaposi's sarcoma cells. Recombinant ribonucleases can be
 CC expressed in bacteria without an N-terminal methionine due to the
 CC presence of a signal peptide that is cleaved by bacteria. The soluble

CC expression of ribonuclease allows the proteins to be fused in-frame with
 CC ligand binding moieties to form cytotoxic fusion proteins. They can be
 CC used for treatment of cancer and autoimmune diseases

SQ Sequence 105 AA;

Query Match 98.8%; Score 575; DB 2; Length 105;
 Best Local Similarity 98.1%; Pred. No. 1.8e-61;
 Matches 103; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MSDWLTFQKKHLTNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLTT 60
 Db 1 MQDWLTFQKKHLTNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGLIASKNVLTT 60
 Qy 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 Db 61 TSEFYLSDCNVTSRPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105

RESULT 5

AAy28865
 ID AAY28865 standard; protein; 104 AA.

XX AC AAY28865;

XX DT 25-JAN-2000 (first entry)

XX DE Rana pipiens liver ribonuclease (RapLr1).

XX KW Rana pipiens liver ribonuclease; RapLr1; covalently bound; LL2 antibody;
 KW ligand binding moiety; CD22; cancerous B cell; Kaposi's sarcoma; frog;
 KW human chorionic gonadotrophin; hCG; recombinant ribonuclease; RNase;
 KW signal peptide; cytotoxic fusion protein; cancer; autoimmune disease.

XX OS Rana pipiens.

XX PN WO9950398-A2.

XX PD 07-OCT-1999.

XX PF 26-MAR-1999; 99WO-US006641.

XX PR 27-MAR-1998; 98US-0079751P.

XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX PI Rybak SM, Newton DL;

XX DR WPI; 1999-610847/52.

XX DR N-PSDB; AAZ08124.

XX PT New recombinant ribonucleases, used for killing target cells, e.g. for
 treating cancers, viral infections or autoimmune diseases.

XX PS Claim 1; Page 55; 71pp; English.

XX CC The present sequence is Rana pipiens liver ribonuclease (RapLr1) protein.
 CC Carboxy terminal end of RapLr1 has a covalently bound ligand binding
 CC moiety, which can be a LL2 antibody directed against CD22 on cancerous B
 CC cells or human chorionic gonadotrophin (hCG) effective against Kaposi's
 CC Sarcoma cells. Recombinant ribonucleases can be expressed in bacteria
 CC without an N-terminal methionine due to the presence of a signal peptide
 CC that is cleaved by bacteria. The soluble expression of ribonuclease
 CC allows the proteins to be fused in-frame with ligand binding moieties to
 CC form cytotoxic fusion proteins. They can be used for treatment of cancer
 CC and autoimmune diseases

SQ Sequence 104 AA;

Query Match 98.5%; Score 573; DB 2; Length 104;
 Best Local Similarity 100.0%; Pred. No. 3.2e-61;
 Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 3 DWLTFQKKHLNTRDVCNNIMSTNLFHCKDKKNTFIYSRPEPVKAICKGIIASKNVLTTTS 62
 |||||
 Db 2 DWLTFQKKHLNTRDVCNNIMSTNLFHCKDKKNTFIYSRPEPVKAICKGIIASKNVLTTTS 61
 |||||
 QY 63 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 105
 |||||
 Db 62 EFYLSDCNVTSPCKYKLLKSTNTFCVTCENQAPVHFVGVGHC 104
 |||||

RESULT 6

AAAY28879
 ID AAY28879 standard; protein; 127 AA.
 XX
 AC AAY28879;
 XX
 DT 25-JAN-2000 (first entry)
 XX
 DE Rana pipiens Clone 5alb ribonuclease.

XX Rana pipiens ribonuclease Clone 5alb; RaPLR1; covalently bound; RNase;
 KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; onconase;
 KW Kaposi's Sarcoma; human chorionic gonadotropin; hCG; cancer;
 KW recombinant ribonuclease; frog; signal peptide; cytotoxic fusion protein;
 KW autoimmune disease.
 XX

OS Rana pipiens.

XX Key Location/Qualifiers

FT Peptide 1..23

FT /label= Signal peptide

FT /note= "Putative"

FT Protein 24..127

FT /label= Rana_pipiens_Clone_5alb_ribonuclease

XX WO950398-A2.

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RESULT 7

AAAY28866

XX ID AAY28866 standard; protein; 104 AA.

XX AC AAY28866;

XX DT 25-JAN-2000 (first entry)

XX DE Recombinant RaPLR1 Met23Leu amino acid sequence.

XX KW Recombinant Rana pipiens ribonuclease; RaPLR1 Met23Leu; covalently bound;

XX KW LL2 antibody; ligand binding moiety; CD22; cancerous B cell; RNase;

XX KW Kaposi's sarcoma; human chorionic gonadotropin; hCG; signal peptide;

XX KW recombinant ribonuclease; cytotoxic fusion protein; cancer; frog;

XX KW autoimmune disease.

XX OS Rana pipiens.

XX OS Synthetic.

XX XX

XX Key Location/Qualifiers

FT Misc-difference 23

FT /note= "Wild type Met replaced with Leu"

XX WO950398-A2.

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Query Match 97.9%; Score 570; DB 2; Length 104;

Best Local Similarity 99.0%; Pred. No. 7.3e-61;

Matches 102; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 3 DWLTFQKKHLNTRDVCNNIMSTNLFHCKDKKNTFIYSRPEPVKAICKGIIASKNVLTTTS 62

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CC The present sequence is a recombinant Rana pipiens ribonuclease (RaPLR1) protein with Met23Leu. Carboxy terminal end of recombinant RaPLR1 has a covalently bound ligand binding moiety, which can be a LL2 antibody directed against CD22 on cancerous B cells or human chorionic gonadotropin (hCG) effective against Kaposi's sarcoma cells. Recombinant ribonucleases can be expressed in bacteria without an N-terminal methionine due to the presence of a signal peptide that is cleaved by bacteria. The soluble expression of ribonuclease allows the proteins to be fused in-frame with ligand binding moieties to form cytotoxic fusion proteins. They can be used for treatment of cancer and autoimmune diseases

SQ Sequence 104 AA;

Query Match 98.5%; Score 573; DB 2; Length 127;

Best Local Similarity 100.0%; Pred. No. 4.1e-61;

Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 3 DWLTFQKKHLNTRDVCNNIMSTNLFHCKDKKNTFIYSRPEPVKAICKGIIASKNVLTTTS 62

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Db      2 DMLTFQKKHLNTRDVCNNILSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLTFS 61
Qy      63 EFYLSDCNVTSPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 105
        |||
Db      62 EFYLSDCNVTSPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 104
        |||

RESULT 8
AAW35118
ID AAW35118 standard; protein; 112 AA.
XX
AC AAW35118;
XX
XX 20-APR-1998 (first entry)
XX
DE R. pipiens recombinant RNase protein NLSMetSerrOnc.
XX
KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
KW tumour cell growth; frog.
XX
OS Rana pipiens.
XX
PN WO9731116-A2.
XX
PD 28-AUG-1997.
XX
PF 19-FEB-1997; 97WO-US002588.
XX
PR 21-FEB-1996; 96US-0011800P.
XX
PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX
PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX
DR WPI; 1997-435168/40.
DR N-PSDB; AAT94955.
XX
PT Ribonuclease molecules based on native Onconase - used for killing cells,
PT particularly tumour cells.
XX
PS Claim 18; Page 63; 90pp; English.
XX
CC AAW35115 to AAW35123 encode recombinant proteins (rOnc) which are
CC modifications of the RNase Onconase (RTM) (nOnc). Such novel ribonuclease
CC molecules are highly cytotoxic and can be used alone or to form chemical
CC conjugates or to target recombinant immunofusions. They are used
CC particularly for decreasing tumour cell growth. They can also be used for
CC cell separation in vitro by selectively killing unwanted types of cells,
CC e.g. in bone marrow prior to transplantation into a patient undergoing
CC marrow ablation by radiation, or for killing leukaemia cells or T-cells
CC that would cause graft versus host disease. The toxins can also be used
CC to selectively kill unwanted cells in culture. The new ribonucleases have
CC increased cytotoxic activity compared to nOnc and also lower
CC immunogenicity in humans
XX
SQ Sequence 112 AA;
    Query Match          96.2%; Score 560; DB 2; Length 112;
    Best Local Similarity 96.2%; Pred. No. 1.3e-59;
    Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy      1 MSDMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
        |||
Db      8 MSDMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 67
        |||

Qy      61 TSEFYLSDCNVTSPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 105
        |||
Db      68 TSEFYLSDCNVTSPCKYKLGKSTNTFCVTCENQAPVHFVGVGSC 112
        |||

RESULT 9
AAW35134
ID AAW35134 standard; protein; 251 AA.
XX
AC AAW35135;
XX
XX 20-APR-1998 (first entry)
XX
DE R. pipiens recombinant RNase rOnc fusion protein 11.
XX
KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
KW tumour cell growth; frog.
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XX AAW35134;
AC
XX 20-APR-1998 (first entry)
XX
DE R. pipiens recombinant RNase rOnc fusion protein 10.
XX
KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
KW tumour cell growth; frog.
XX
OS Rana pipiens.
XX
PN WO9731116-A2.
XX
PD 28-AUG-1997.
XX
PF 19-FEB-1997; 97WO-US002588.
XX
PR 21-FEB-1996; 96US-0011800P.
XX
PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX
PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX
DR WPI; 1997-435168/40.
DR N-PSDB; AAT94972.
XX
PT Ribonuclease molecules based on native Onconase - used for killing cells,
PT particularly tumour cells.
XX
PS Disclosure; Page 76; 90pp; English.
XX
CC Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
CC novel ribonuclease molecules are highly cytotoxic and can be used alone
CC or to form chemical conjugates or to target recombinant immunofusions.
CC They are used particularly for decreasing tumour cell growth. They can
CC also be used for cell separation in vitro by selectively killing unwanted
CC types of cells, e.g. in bone marrow prior to transplantation into a
CC patient undergoing marrow ablation by radiation, or for killing leukaemia
CC cells or T-cells that would cause graft versus host disease. The toxins
CC can also be used to selectively kill unwanted cells in culture. The new
CC ribonucleases have increased cytotoxic activity compared to nOnc and also
CC lower immunogenicity in humans
XX
SQ Sequence 251 AA;
    Query Match          96.2%; Score 560; DB 2; Length 251;
    Best Local Similarity 96.2%; Pred. No. 3.7e-59;
    Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy      1 MSDMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
        |||
Db      147 MSDMLTFQKKHLNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 206
        |||

Qy      61 TSEFYLSDCNVTSPCKYKLGKSTNTFCVTCENQAPVHFVGVGHC 105
        |||
Db      207 TSEFYLSDCNVTSPCKYKLGKSTNTFCVTCENQAPVHFVGVGSC 251
        |||

RESULT 10
AAW35135
ID AAW35135 standard; protein; 254 AA.
XX
AC AAW35135;
XX
XX 20-APR-1998 (first entry)
XX
DE R. pipiens recombinant RNase rOnc fusion protein 11.
XX
KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
KW tumour cell growth; frog.
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XX OS Rana pipiens.
XX OS Synthetic.
XX PN WO9731116-A2.
XX PD 28-AUG-1997.
XX PF 19-FEB-1997; 97WO-US002588.
XX PR 21-FEB-1996; 96US-0011800P.
XX PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX DR WPI; 1997-435168/40.
XX DR N-PSDB; AAT94973.
XX PT Ribonuclease molecules based on native Oncinase - used for killing cells,
XX PT particularly tumour cells.
XX PS Disclosure; Page 77; 90pp; English.
XX CC Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
XX CC (rOnc) which are modifications of the RNase Oncinase (RTM) (nOnc). Such
XX CC novel ribonuclease molecules are highly cytotoxic and can be used alone
XX CC or to form chemical conjugates or to target recombinant immunofusions.
XX CC They are used particularly for decreasing tumour cell growth. They can
XX CC also be used for cell separation in vitro by selectively killing unwanted
XX CC types of cells, e.g. in bone marrow prior to transplantation into a
XX CC patient undergoing marrow ablation by radiation, or for killing leukaemia
XX CC cells or T-cells that would cause graft versus host disease. The toxins
XX CC can also be used to selectively kill unwanted cells in culture. The new
XX CC ribonucleases have increased cytotoxic activity compared to nOnc and also
XX CC lower immunogenicity in humans
XX SQ Sequence 254 AA;
XX Query Match 96.2%; Score 560; DB 2; Length 254;
XX Best Local Similarity 96.2%; Pred. No. 3.7e-59;
XX Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
XX QY 1 MSDWLTFOKKHILNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
XX Db 1 MSDWLTFOKKHILNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
XX QY 61 TSEFYLSDCNVTSRPCCKYKLGKSTNFCVTCENQAPVHFVGVC 105
XX Db 61 TSEFYLSDCNVTSRPCCKYKLGKSTNFCVTCENQAPVHFVGVC 105
XX RESULT 11
XX AAW35133
XX ID AAW35133 standard; protein; 355 AA.
XX AC AAW35133;
XX XX 20-APR-1998 (first entry)
XX DT R. pipiens recombinant RNase rOnc fusion protein 9.
XX DE RNase A; ribonuclease; cytotoxic; oncinase; nOnc; immunofusion;
XX KW tumour cell growth; frog.
XX KW Rana pipiens.
XX OS Synthetic.
XX OS WO9731116-A2.
XX PN 28-AUG-1997.
XX PD 19-FEB-1997; 97WO-US002588.
XX PF 19-FEB-1997; 97WO-US002588.
XX PR 21-FEB-1996; 96US-0011800P.
XX PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX DR WPI; 1997-435168/40.
XX DR N-PSDB; AAT94973.
XX PT Ribonuclease molecules based on native Oncinase - used for killing cells,
XX PT particularly tumour cells.
XX PS Disclosure; Page 77; 90pp; English.
XX CC Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
XX CC (rOnc) which are modifications of the RNase Oncinase (RTM) (nOnc). Such
XX CC novel ribonuclease molecules are highly cytotoxic and can be used alone
XX CC or to form chemical conjugates or to target recombinant immunofusions.
XX CC They are used particularly for decreasing tumour cell growth. They can
XX CC also be used for cell separation in vitro by selectively killing unwanted
XX CC types of cells, e.g. in bone marrow prior to transplantation into a
XX CC patient undergoing marrow ablation by radiation, or for killing leukaemia
XX CC cells or T-cells that would cause graft versus host disease. The toxins
XX CC can also be used to selectively kill unwanted cells in culture. The new
XX CC ribonucleases have increased cytotoxic activity compared to nOnc and also
XX CC lower immunogenicity in humans
XX SQ Sequence 254 AA;
XX Query Match 96.2%; Score 560; DB 2; Length 254;
XX Best Local Similarity 96.2%; Pred. No. 3.7e-59;
XX Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
XX QY 1 MSDWLTFOKKHILNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
XX Db 1 MSDWLTFOKKHILNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
XX QY 61 TSEFYLSDCNVTSRPCCKYKLGKSTNFCVTCENQAPVHFVGVC 105
XX Db 61 TSEFYLSDCNVTSRPCCKYKLGKSTNFCVTCENQAPVHFVGVC 105
XX RESULT 12
XX AAW35129
XX ID AAW35129 standard; protein; 355 AA.
XX AC AAW35129;
XX XX 20-APR-1998 (first entry)
XX DT R. pipiens recombinant RNase rOnc fusion protein 5.
XX DE RNase A; ribonuclease; cytotoxic; oncinase; nOnc; immunofusion;
XX KW tumour cell growth; frog.
XX KW Rana pipiens.
XX OS Synthetic.
XX OS WO9731116-A2.
XX PN 28-AUG-1997.
XX PD 19-FEB-1997; 97WO-US002588.
XX PF 19-FEB-1997; 97WO-US002588.
XX PR 21-FEB-1996; 96US-0011800P.
XX PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX DR WPI; 1997-435168/40.
XX DR N-PSDB; AAT94967.

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XX PR 21-FEB-1996; 96US-0011800P.
XX PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX DR WPI; 1997-435168/40.
XX DR N-PSDB; AAT94971.
XX PT Ribonuclease molecules based on native Oncinase - used for killing cells,
XX PT particularly tumour cells.
XX PS Disclosure; Page 75; 90pp; English.
XX CC Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
XX CC (rOnc) which are modifications of the RNase Oncinase (RTM) (nOnc). Such
XX CC novel ribonuclease molecules are highly cytotoxic and can be used alone
XX CC or to form chemical conjugates or to target recombinant immunofusions.
XX CC They are used particularly for decreasing tumour cell growth. They can
XX CC also be used for cell separation in vitro by selectively killing unwanted
XX CC types of cells, e.g. in bone marrow prior to transplantation into a
XX CC patient undergoing marrow ablation by radiation, or for killing leukaemia
XX CC cells or T-cells that would cause graft versus host disease. The toxins
XX CC can also be used to selectively kill unwanted cells in culture. The new
XX CC ribonucleases have increased cytotoxic activity compared to nOnc and also
XX CC lower immunogenicity in humans
XX SQ Sequence 355 AA;
XX Query Match 96.2%; Score 560; DB 2; Length 355;
XX Best Local Similarity 96.2%; Pred. No. 5.8e-59;
XX Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
XX QY 1 MSDWLTFOKKHILNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
XX Db 1 MSDWLTFOKKHILNTRDVCNNIMSTNLFHCKDKNTFIYSRPEPVKAICKGIIASKNVLT 60
XX QY 61 TSEFYLSDCNVTSRPCCKYKLGKSTNFCVTCENQAPVHFVGVC 105
XX Db 61 TSEFYLSDCNVTSRPCCKYKLGKSTNFCVTCENQAPVHFVGVC 105
XX RESULT 12
XX AAW35129
XX ID AAW35129 standard; protein; 355 AA.
XX AC AAW35129;
XX XX 20-APR-1998 (first entry)
XX DT R. pipiens recombinant RNase rOnc fusion protein 5.
XX DE RNase A; ribonuclease; cytotoxic; oncinase; nOnc; immunofusion;
XX KW tumour cell growth; frog.
XX KW Rana pipiens.
XX OS Synthetic.
XX OS WO9731116-A2.
XX PN 28-AUG-1997.
XX PD 19-FEB-1997; 97WO-US002588.
XX PF 19-FEB-1997; 97WO-US002588.
XX PR 21-FEB-1996; 96US-0011800P.
XX PA (USSH ) US DEPT HEALTH & HUMAN SERVICES.
XX PI Rybak SM, Newton DL, Boque L, Wlodawer A;
XX DR WPI; 1997-435168/40.
XX DR N-PSDB; AAT94967.

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XX Ribonuclease molecules based on native Onconase - used for killing cells,
PT particularly tumour cells.

XX Disclosure; Page 71; 90pp; English.

XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
CC novel ribonuclease molecules are highly cytotoxic and can be used alone
CC or to form chemical conjugates or to target recombinant immunofusions.
CC They are used particularly for decreasing tumour cell growth. They can
CC also be used for cell separation in vitro by selectively killing unwanted
CC types of cells, e.g. in bone marrow prior to transplantation into a
CC patient undergoing marrow ablation by radiation, or for killing leukaemia
CC cells or T-cells that would cause graft versus host disease. The toxins
CC can also be used to selectively kill unwanted cells in culture. The new
CC ribonucleases have increased cytotoxic activity compared to nOnc and also
CC lower immunogenicity in humans

XX Sequence 355 AA;

Query Match 96.2%; Score 560; DB 2; Length 355;

Best Local Similarity 96.2%; Pred. No. 5.8e-59; Length 355;
Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MSDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFYSPRPVKAICKGIIASKNVLT 60
Db 251 MSDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFYSPRPVKAICKGIIASKNVLT 310

Qy 61 TSEFYSDCNVTSRCKYKLLKSKNTNFCVTCENQAPVHFVGVGHC 105

Db 311 TSEFYSDCNVTSRCKYKLLKSKNTNFCVTCENQAPVHFVGVGSC 355

RESULT 13

AAW35132
ID AAW35132 standard; protein; 366 AA.

AC AAW35132;

DT 20-APR-1998 (first entry)

XX R. pipiens recombinant RNase rOnc fusion protein 8.

XX RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
XX tumour cell growth; frog.

XX Rana pipiens.

OS Synthetic.

XX WO9731116-A2.

XX 28-AUG-1997.

XX 19-FEB-1997; 97WO-US002588.

XX 21-FEB-1996; 96US-0011800P.

XX (USSH) US DEPT HEALTH & HUMAN SERVICES.

XX Rybak SM, Newton DL, Boque L, Wlodawer A;

XX WPI; 1997-435168/40.

XX N-PSDB; AAT94970.

XX Ribonuclease molecules based on native Onconase - used for killing cells,
PT particularly tumour cells.

XX Disclosure; Page 74; 90pp; English.

XX Sequences AAW35125 to AAW35135 represent recombinant fusion proteins
CC (rOnc) which are modifications of the RNase Onconase (RTM) (nOnc). Such
CC novel ribonuclease molecules are highly cytotoxic and can be used alone

CC or to form chemical conjugates or to target recombinant immunofusions.
CC They are used particularly for decreasing tumour cell growth. They can
CC also be used for cell separation in vitro by selectively killing unwanted
CC types of cells, e.g. in bone marrow prior to transplantation into a
CC patient undergoing marrow ablation by radiation, or for killing leukaemia
CC cells or T-cells that would cause graft versus host disease. The toxins
CC can also be used to selectively kill unwanted cells in culture. The new
CC ribonucleases have increased cytotoxic activity compared to nOnc and also
CC lower immunogenicity in humans

XX Sequence 366 AA;

Query Match 96.2%; Score 560; DB 2; Length 366;

Best Local Similarity 96.2%; Pred. No. 6e-59; Length 366;
Matches 101; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MSDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFYSPRPVKAICKGIIASKNVLT 60

Db 262 MSDWLTQKKHITNTRDVCNIMSTNLFHCKDKNTFYSPRPVKAICKGIIASKNVLT 321

Qy 61 TSEFYSDCNVTSRCKYKLLKSKNTNFCVTCENQAPVHFVGVGHC 105

Db 322 TSEFYSDCNVTSRCKYKLLKSKNTNFCVTCENQAPVHFVGVGSC 366

RESULT 14

AAW06544
ID AAW06544 standard; protein; 104 AA.

AC AAW06544;

XX 22-AUG-1997 (first entry)

XX Antitumour protein from Rana pipiens oocytes.

XX Tumour; chemotherapy; radiotherapy; frog.

XX Rana pipiens.

XX WO9639428-A1.

XX 12-DEC-1996.

XX 03-JUN-1996; 96WO-US008304.

XX 06-JUN-1995; 95US-00467955.

XX (ALFA-) ALFACELL CORP.

XX Ardelt WJ;

XX WPI; 1997-043063/04.

XX Antitumour proteins from Rana pipiens oocyte(s) - have fewer
PT disadvantages than chemotherapy, surgery and radiotherapy.

XX Claim 8; Page 28; 45pp; English.

XX The present sequence is a specifically claimed example of an antitumour
CC protein from the generic protein in AAW18224, with the molecular weight
CC 12000. This is one of two preferred proteins (the other in AAW06543) that
CC have been isolated from Rana pipiens oocytes. Both proteins have a
CC blocked amino terminal group and are essentially free of carbohydrates.
CC The proteins are used to treat tumours. Use of the peptides has fewer
CC disadvantages than chemotherapy, radiotherapy and surgery in the
CC treatment of tumours

XX Sequence 104 AA;

Query Match 95.5%; Score 556; DB 2; Length 104;

Best Local Similarity 97.1%; Pred. No. 3.6e-59; Length 104;
Matches 100; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Job time : 45.7895 secs

RESULT 15

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KW RNase A; ribonuclease; cytotoxic; onconase; nOnc; immunofusion;
KW tumour cell growth; frog.

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21-FEB-1996.

PA (USSH) US DE

PI Rybak SM, Newton DL, Boque L, Wlodawe

DR WPI; 1997-435168/40.

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 教育部

Especially tumour cells.

XX
disclosure, page 83-88; supp; enclttn.

CC modifications of the RNase Onconase (RTM)

CC conjugates or to target recombinant immu

cell separation in vitro by selectively

CC marrow ablation by radiation, or for kill
CC that would cause graft versus host disease

increased cytotoxic activity compared to

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Best Local Similarity 95.2%; Pred. No. 3

0.7 1 MSDWT ETRGVZHT ENNEBNDIMCANTMCMEMT ETRVC

db
1 MEDWT.TEQKXHTTNTBPDVCHNTMSTNI.EHC

QY 61 TSEFYLSDCNVTSRCPCKYLLKKSTNTFCVTC

Db 61 TSEFYLSDCNVTSRPCKYKLKKSTNKFVCVC

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